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FARM AND FIRESIDE

THE NATIONAL FARM PAPER

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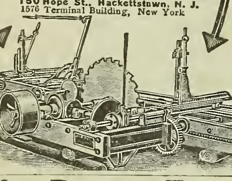

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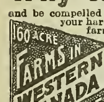

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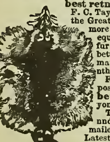

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With the Editor

We had a good apple crop last fall on the old farm in Sir John's Vale. The "big field" we planted in apple-trees last spring, and only two or three died out of about seventeen hundred. Good planting? Well, I give the credit to the season. We dug deep holes—for each tree its own separate hole, and no plowing for them; we pretty carefully snipped off the too-long and crooked or bruised roots, we threw in just on top of each root system two shovelfuls of black leaf-mold which we hauled from the "upper field" on the side of Great Cacapon Mountain, and we religiously poured about two quarts of water in each hole after we had half filled it up. Then we pulled dry earth over it and went away at peace with the world. For it seemed as if we had done the best we could.

And after the trees were all planted—it was on a Saturday evening—we awoke in the night and heard rain on the roof! It rained for two days. The trees simply couldn't die.

But these trees didn't bear the good crop of which I started to tell—of course not. We have on the farm some two hundred old trees, middle-aged trees and rather young trees, all of which bore. We cut back some veterans of more than fifty years of age—and I wish I had a picture of them loaded! Most of them are of varieties of which I know nothing—some of them delicious to the taste.

There is a variety known locally as "Summer Reds"—an old variety, for the trees are some of them two feet in diameter; a once popular variety, for they are found all over the county. I don't find them under that name in any of the books. They are big red apples, good in quality and beautiful in appearance. Take a cloth and rub one of them and it shines like an apple of carnelian. We made up seven barrels of cider for vinegar from these and other apples, and let a great many decay because we had no more barrels and could get no more—the apples happened to be too many for us.

And yet apples of a poorer quality were bringing two and a half to three dollars a barrel on the tree at the same time. What was the trouble? We hadn't enough for a car-load. It wouldn't pay to ship them by express—the rates are so high. I met an apple-buyer in town. He was contracting to take apples as they run—all varieties—at two dollars and a half a barrel in the orchards. But he shook his head at mine. "Hardly enough to bother with," said he.

I knew that before I spoke to him.

* * *

But right there in that very neighborhood were many car-loads of those "Summer Reds," fall pippins, russets and lots of others, scattered about in the old farm orchards, here a tree and there a tree—and they should have been used as food for men, rather than hogs.

They might have been, if we had had some sort of farmers' organization which would have taken a barrel here and a barrel there as they were hauled to town, and made car-loads of them, properly packed, labeled with the variety name.

The small producer of almost any sort of farm product can get the benefit of the car-lot shipment by coöperation and in no other way. It is the same with potatoes, hogs, cattle, sheep, chickens, eggs and almost everything else.

Eggs and butter? Certainly. We pay middlemen for collecting them and shipping them in car-lots, don't we? And in some places the farmers have great coöperative egg-collecting associations that ship that way.

At Sleepy Creek, some ten miles from our place, is the orchard of the Sleepy Creek Orchard Company, which in its sixth year has the record of having paid fifteen per cent. on its stock last year, and I don't know how much this year, but I suspect something like twenty-five per cent. dividends. They were packing their sixty-eighth car of peaches when we called and had two cars more to ship. They began with little money and had hard sledding for one or two years, but the peach-trees they used as fillers in the apple-orchard paid off their debts in 1909 and put them on Easy Street. Mr. Fulton, their manager, is a graduate of the Michigan College of Agriculture and has already made a great success in fruit-growing.

Mr. Fulton does not need to worry about shipments. His problem is far different from that of the small grower and at bottom far easier. He begins with Waddels and is busy all the season—shipping car-lots of Waddels, Carman, Belle of Georgia, Reeves' Favorite, Elberta, Fox's Seedling, Smock, Wonderful, and winding up with Salway.

* * *

We are going to plant some peaches; but can we follow this method and have varieties running from July 15th to September 30th? Not at all. We should be able to get practically nothing at all for our fruit—not being able to produce a car-load of any one variety. With only a thousand trees we daren't go beyond one variety—unless we double up with some of the neighbors. So that's what we are going to do. We shall plant two or at most three varieties of peaches and those the same kinds that a neighbor is planting. Whatever he plants, we shall plant. We hope that ours and his will ripen together, and thus we shall have the chance of filling cars for shipment. Even in this we know we may be disappointed; for the same variety does not always ripen at the same time in the same neighborhood under the different conditions of different orchards. But with a minimum of five hundred trees in a block we may be able to pick the minimum weight of a car alone—if we have to.

But suppose we had an organization of fifty farmers and should get together and agree that we will plant an aggregate of fifty thousand peach-trees. We could send them off in car-lots all summer long—just as Mr. Fulton does from his great orchard. We should have all the advantages of the big orchard, while operating on a small scale.

We plant too many varieties of fruits, instead of getting together on a few standard varieties that are known on the markets. We breed too many breeds of live stock, instead of agreeing on one breed and thus making our neighborhood headquarters for that breed so as to attract buyers. We haven't enough of the neighborhood spirit—I don't mean in Morgan County, West Virginia, where I am almost a stranger and don't know so very much about the matter. But all over these United States the farmers have too much of the farm spirit and individual spirit and not enough of the neighborhood spirit.

Ten men are a great deal more than ten times as strong as one man. Fix your eyes on neighborhood team-work, pulling together, and the car-lot shipment.

Herbert Quick

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FARM AND FIRESIDE

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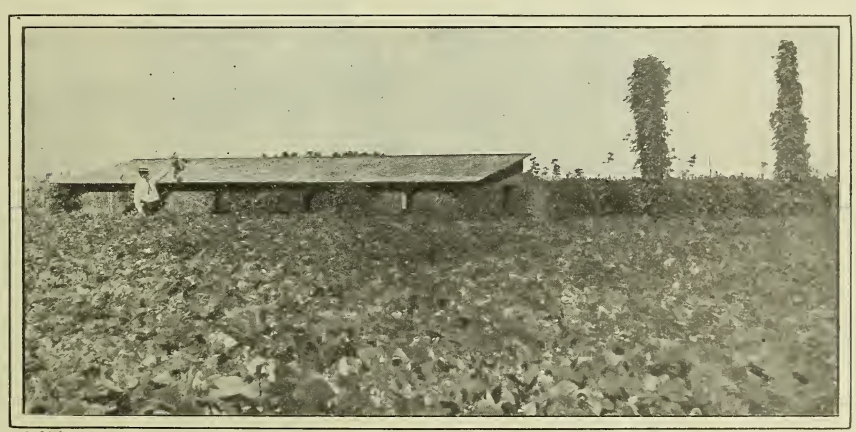
The Magic of the Velvet Bean

By H. F. R.

In this letter, according to promise, I am to tell about the velvet bean. I will begin by relating a circumstance which more than anything else impressed me with its value.

Our neighbor, Mr. C. O. White, who lives in the wilderness four miles away, with but two or three farms intervening between his place and ours, was a manufacturer of gasolene engines in Chicago four years ago, when, like myself, he quit the competitive scramble. He came South and went to farming, and he is farming right. We arranged for him to be present when we began cutting our corn for the silo about the tenth of July last, so as to be sure that we had made no mistake in setting up and starting our fifteen-horsepower gasolene engine, which cost us six hundred dollars. We did not need so expensive a machine for our own use, but we thought that some of our neighbors would build silos if facilities for cutting and storing the silage were at hand. In fact, two of them have already done so and had their silos filled with our machinery. To help the Fairhope Single Tax Colony is a part of the interesting game we are playing, hence we got a portable silage-cutting outfit. At the same time, we are anxious ourselves to participate in the advantages which the colony offers to capital as well as to labor. We are here because of the colony and because we believe in the principles upon which it was founded sixteen years ago.

Mr. White had come over to our place once before when the little two-horsepower gasolene engine which pumps the water and runs the separator had gotten balky and had turned a screw or two or done something to its insides, and got it running all right. He would accept no compensation for this service, so Captain Jack and I felt that we should show our appreciation of his kindness in some way; and learning when he would begin gathering corn, Laney and I and the boy appeared to his surprise that morning and, despite his protests, put in one good day's work in the field helping him pull the ears from the stalks. You smile at the idea of my working in the field, but that is what I did, at least until dinner-time. Then, out of regard for my old age, I sat on the gallery in a pleasant breeze and watched the others work, chatting meanwhile with Mrs. White. Like Missie, she knows all about farming and is interested in everything done on the farm, and their nineteen-year-old boy—one of the finest you ever saw—has taken to the farm like a duck to water. He likes it because he makes it a study and is putting his brains into it.



A Velvet Bean Patch on the Writer's Farm. Planted in Rows Three Feet Apart June 20th and Photographed in October

A Happy Home for Deserving Bacteria

Before I left that day we measured the corn on one average acre and, figuring seventy pounds of shucked corn to the bushel, it amounted to sixty-six bushels of shelled corn to the acre, as against twenty or twenty-five bushels, which is considered a fairly good yield here when five or six dollars' worth of fertilizer is used to the acre. If not fertilized, ten bushels would probably be the average yield in this part of the world. In fact, no one thinks of raising corn here without fertilizing heavily. In this instance, Mr. White had only applied three dollars' worth of commercial fertilizer per acre and the land was naturally no better than the average around here. But this is what had been done to it; the year before a crop of velvet beans had been grown on the land and plowed under. This, together with the fact that the seed had been selected with care and the crop properly cultivated, explains it all.

But there was another interesting feature connected with that corn-field which Captain Jack and I have taken to heart. Just before the corn began to tassel, Mr. White went through it with a hand corn-planter, a thing like a walking-cane, which punches the corn down into the ground, and sowed velvet beans in the rows between the corn-stalks, putting in a bean or two every ten or twelve inches. By thus planting the beans in the corn rows instead of between them, the further cultivation of the corn was not interfered with, for like all up-to-date farmers, Mr. White does not believe in "laying by" a corn crop or any other kind of crop. He keeps stirring the top of the soil to the depth of an inch or two as long as a mule can drag a cultivator between the rows. This not only kills the weeds and conserves the moisture, but, most important of all, it lets the air into the ground and encourages the friendly bacteria to multiply and keep working for the good of the crop.

When it comes to friendly bacteria, I claim to know something of what I am talking about, for I lived in Texas thirty-five years. I was there when the Mexican boll-weevils crossed the Rio Grande and began their devastating and strangely steady march, taking in a strip of new territory thirty miles in width every year. I remember how they filled the hearts of farmers all over the state with dark forebodings, terror even, until the national agricultural department came to the rescue, thanks to Secretary Wilson. He invoked the aid of the friendly bacteria. He showed the farmers how to make cotton grow so fast and furiously that the boll-weevils could not catch up with the crop until most of it was securely incased in the hard shell of the cotton boll. It was not a matter of extra fertilization, but in the main a matter of extra cultivation coupled with good seed and the burning of the stalks as soon as the cotton was gathered.

The extra cultivation increased the friendly bacteria in the soil and enabled them to head off the boll-weevil. But, do you know, that for a long time the farmers, as a rule, could see no good in the department's remedy notwithstanding its proven success at the agricultural stations? It was too simple; it did not kill the boll-weevils quick enough. It was also contrary to the traditional idea of "laying by" crops and of cultivating land only for the purpose of killing weeds.

This, however, did not discourage the Secretary of Agriculture. He made up his mind to pound his remedy into the heads of the farmers, whether they liked it or not, and so he flooded the boll-weevil stricken regions with experts, book farmers mostly. This was the campaign waged through the South under the generalship of Dr. S. A. Knapp. The experts went from house to house, got the farmers together in little groups, and explained to them how crops could not be grown successfully in any soil without the presence in that soil of bacteria friendly to the crop; that, while fertilizing the soil had the effect, as shown by the microscope, of increasing the friendly bacteria, it was also shown by the microscope that stirring the soil and letting the air in around the plant had the same effect, often just as great an effect, as a top dressing of stable manure; that this was why the cultivation of a plant stimulated its growth, just as it is stimulatcd by the application of a fertilizer; that since the boll-weevil could not appear in damaging numbers until after several generations had had time to hatch out and since they never attacked the hard shell of the boll which incloses the growing cotton, so long as there were plenty of tender squares in which to deposit their eggs, the right thing to do was to get an early variety of good seed, plow less land for cotton and concentrate on this reduced area the same amount of work in cultivating the crop which they had been in the habit of applying to two or three times as much land. It did not necessarily mean more work in raising cotton, but often less work, considering the increased yield and the time saved in plowing and planting a smaller area as compared with a larger one.

The conservation of the moisture resulting from the frequent stirring of the soil was also dwelt upon, and it was shown how much better the smaller field cultivated in this way would stand the summer droughts than the larger one cultivated the old way. The farmers were assured that, under the department's method, the plant would grow rapidly from the start and the first and second growth of squares would turn into hard-shelled bolls and safely inclose a good crop before the boll-weevils appeared in destructive swarms and that, when they did thus appear, the third growth of squares would be enough to satisfy their greed until the cotton was ready to pop the bolls open.

An Inoculation of Ideas

The wise old man at the head of Uncle Sam's agricultural department, however, did not stop by merely disseminating information in this way among the farmers. He went still further. He had his experts in every neighborhood which they visited persuade a farmer or two to plant and cultivate perhaps no more than a single acre under the printed rules and directions of the department. These experts would then come around every week or two and see that the job was being done according to the book. By the end of the season a single acre thus cultivated would sometimes yield a bale or more of cotton worth, including the seed, fifty or sixty dollars, while the cotton in the rest of the field would hardly pay for picking. In this way the brains of the farmers of Texas were inoculated, the result being that bigger crops at probably less expense are now grown in Texas with the boll-weevil than were formerly grown without him.

I will now return to the velvet bean, having gotten the friendly bacteria off my mind, about which Captain

[CONCLUDED ON PAGE 6]

More Histories of Abandoned Farms

Inspiring Stories of Success Told in Letters From Our Readers

Hard Work That Accomplished Something

An old farm covers both sides of a long valley in our neighborhood, perhaps a mile long. The soil is limestone, clay and slate diversified, with some gravel. Years of unchecked washing and cropping without return had so exhausted its fertility that two large fields had been thrown out as too poor to farm. Tenants robbed the place of cross-ties, posts, etc. Uncared-for washes cut up the land until the spring floods used to deposit tons of stone and debris in the yard and flood the house.

Then the present owner took hold. He wasn't afraid of hard work that accomplished something. He was an enthusiastic Grange member and well read on scientific farming.

He hauled eighty cart-loads of the flood deposits out of the yard. Then the gullies were filled, ditches cut to lead off the surplus water; and the premises cleaned up. Wire fences and post-and-rail boundaries went where the rotten old "worm" fence straggled before.

The judicious use of barn-yard manure, applied knowledge of soils and humus, the turning under of green rye and clover, sowing of buckwheat and rotation of crops have brought the worn-out soil up steadily to a high state of fertility. Out of timber grown on the farm the owner has built a fine bank barn and some other buildings. No apparently waste by-product is lost.

One of the first successes was the setting of a field of alfalfa, which yielded three crops per year, of so many tons that I hesitate to tell it.

Saving Muscle-Power

The timber-cutting left the woods full of tree-tops and fallen timber, so the owner rigged up an old horse-power to a saw of large size, and in one day can now cut enough stove-wood to last many months at a cost of about two dollars per day. He has a knowledge of blacksmithing and the necessary tools, so cuts his shoeing bills to a minimum, and this is no small item, working five head as he does. He raises all his own meat, bread, vegetables, fruits and tame berries, while his cows supply more than he needs of butter and milk. His horse-power is also used on a fodder-cutter.

He believes in making ropes and pulleys do the work of muscles, and all heavy lifting is simplified thus. When he clears out a locust-thicket he uses block and tackle and two or four horses and tears out the roots far better than they can be grubbed out. Others in the vicinity farmed around the big stumps, but he hitched four horses to the heavy wagon used for hauling cross-ties, and by putting a roller on the side-bars, with a heavy log chain he pulled out the stumps, aided by the down-hill grade.

A rural telephone in his sitting-room enables him to market his products after supper, learn prices, etc.; and last spring he called help to fight a dangerous forest fire that threatened his barn. Systematic planning to make every move count keeps his work always up to the minute.

The secret of his success has been hard work and, perhaps, an unusual personality. He is a fine manager and keeps his hired men just as interested in the success of his crops as he is himself.

Cumberland, Maryland.

Clifford E. Davis.

A City Woman's Experience

I was born in town, raised in town and had never spent more than one day on a farm at one time, until I married a farmer boy sick of the farm and anxious to live in town.

After living in town about six years John began to get what the neighbors and I jokingly called "farm fever" every spring and fall, but I declared I would not move onto a farm. For ten years I fought this "farm fever." Then our family had grown from two to seven. Everything we ate was so high priced and John's health had begun to give way working indoors, so that finally I decided I had better yield. We sold our town home and began to hunt a farm.

We knew all the time of this particular farm near to John's old home, but John said he knew I would not live there. At last our time was nearly up, and we had bargained for a four-thousand-dollar farm. Then I guess fate took hold. I asked my husband to take me to see the "Hillside Farm," as we now call it. He laughed in a sickly way. I understood why when we arrived at the end of the lane. Both sides of the road lay thick with old cider-barrels, hoops, broken dishes and crockery. Just behind the house was the garden, with half the fence down, the other half leaning one way or other. There was an open well with a few old fence-rails and boards laid over it. When we had that well cleaned they took a one-horse wagon-load of trash out of it, but now there is not a better well in the township. The last tenants had drawn water up with a pair of lines off a harness. A few steps farther was an immense grape arbor broken down. Around the corner of the house was a large cherry-tree literally covered with grape-vines. The whole yard was grown up with locust and burdock. Not more than fifty feet from the door was an old drill and wagons that were only good for old iron.

A Run-Down Farm, But No Debt

I will never forget how we laughed when we discovered there were two colors to the woodwork in the kitchen—we thought it was dark brown or black, but it turned out to be peach-blow and drab when we were through scrubbing.

John left the choice to me. I reasoned that if we bought the dearer farm, which was in good condition, we would have a debt of two thousand dollars, whereas if we took the forsaken farm, which had a good house, though dirty, we could pay cash for it and clean and improve it.

We have lived here just two years and the neighbors say it doesn't seem like the same place. The whole secret is work. How we all have worked, even down to the baby boy of four years with his little wheel-barrow.

We haven't spent much money on improvements, not more than fifty dollars at the most. Of course, that well had to be cleaned, a new pump put in and a floor laid. Then we had to buy wall-paper for the whole house and wire for the new garden fence, the farm furnishing posts. We pulled the grape-vine down from the cherry-tree and put it on an upright arbor. Last season we found that tree and vine the best on the place.

There are about eighty choice apple-trees in the orchards, which we trimmed. We dug the burdock and dead plum-trees out of the yard and trimmed the cedars and lilacs. The orchard we plowed in 1909 and planted potatoes, then put in winter grain. Last spring it was a picture to delight any eye, the apple-trees in blossom overhead, the green waving grain beneath, and the garden looking so fresh that I wouldn't change places with any town folks no matter how fine their home.

Here we have the fresh air and fresh products from the dairy and the vegetable garden, beside the fresh fruits which are considered luxuries in town and we think it is just the place to raise the children. I don't think we will have any trouble to keep our boy on the farm, he takes such interest in the work.

Pennsylvania. C. E. K.

A Western Man in Virginia

The farm in question is located in Southside, Virginia. I could give the owner's name, but, as he is a very diffident man, he prefers that I withhold it, so we will call him Smith. Some years after the war the owner sold this farm and moved away. The man who bought it could not pay for it, so it was sold again and this proceeding was repeated over and over again for ten years; then it was rented for several years. Each occupant got everything he could out of the land, but returned nothing to it; consequently, the farm was reduced to a barren waste. There are one hundred and twenty-five acres in the tract. The owner could find no purchaser, so placed the farm in the hands of a real-estate agent, who sold it to a Western man, whom we call Smith, for eight dollars per acre.

Smith paid half cash and gave his note for the residue. He was a person of indomitable energy, possessing plenty of horse-sense, and withal a man of fine judgment. He was married and had one child. He brought with him his household goods, two horses, six scrub cows and some farming tools. After making the cash payment he had little money left. The first thing he did was to make a pasture for his stock. He next filled up all the gullies, then went to work to get humus into the soil. It was spring. He planted fifteen acres in corn and sowed cow-peas in the corn before the last working. He put another ten acres in cow-peas, sowing them broadcast. In the fall he picked all the pods and plowed the vines under to make humus.

He cut the corn on the fifteen-acre patch and hauled it off the field. He plowed the vines and stubble under, disked and harrowed the field, then drilled in one and one half bushels of wheat along with five hundred pounds of bone-meal to the acre. In February he sowed red clover on the wheat-field and harrowed it lightly. In June he cut the wheat. It made an average of twenty bushels per acre and left a good stand of clover.

Upward Steps

He put the ten-acre lot in corn, dropping some phosphoric acid with the grain. Meanwhile, he bought another team, giving his note, and hired a man to help. They plowed thirty acres more. Ten of them he put in oats and twenty in corn, planting peas along with the corn. The oats were cut in June and the land nicely prepared and sowed to wheat in September, drilling in five hundred pounds of bone-meal to the acre. In the fall the twenty-acre corn-field had five hundred pounds of bone-meal disked in and was sowed to wheat.

The yield from the fifteen-acre corn-field that he put in the first year was fifteen bushels per acre. The thirty acres planted in corn the second year averaged thirty bushels. Working along this line Smith greatly improved the fertility of his farm and at the end of the third year he had the most of his place under cultivation, at least half of the acres were producing three times as much as when he bought the farm and he could meet his first note. Unlike his neighbors, Smith did not sell his calves, but kept them to build up his herd.

Smith early recognized the need of a better barn, but he did not have the money to have one built. So he and his hired man turned to, blasting and hauling rock to make a suitable foundation for the barn. Then they cut logs and hauled them to a saw-mill to be made into plank. This work ran into the third year. When all material had been gotten together they commenced to build, occasionally getting help. Working on the barn when the crops did not require their services, they finished during the fourth year. If this barn had been put up by contract, it would have cost three thousand dollars.

Smith's success is due to the fact that he raised on his farm everything that man and beast ate. He observed a proper rotation of crops and always kept humus and nitrogen in the soil by sowing cow-peas on every available spot and sowing clover in every corn-field and wheat-patch. He would not take seventy-five dollars per acre for his land to-day and says that he is making more money on his farm here than he ever made on the same area out West.

Danville, Virginia.

E. W. Armistead.

Crowded Off the Farm

By W. T. Burdette

"I had pictured . . . the many things a boy could do in a great city."

"I find now that I made a great mistake in leaving the country."

Away back in the eighties, when I severed my connection with the farm, or at least had to sever it, my greatest desire was to do something better than farming. What a foolish desire it was. I had pictured to myself the many things a boy could do in a great city that would elevate him, so that he could look down on his sunburnt and husky brother back on the farm.

But perhaps I should not have gone, after all, had I not known that the old folks were making preparations to rent the farm at the end of my boyhood days and that I would soon be ousted. I wonder how many farm boys are thus left out of the consideration by the old folks, when they decide to sell or rent and move to town?

Since leaving the farm I have learned a trade, married and raised a family, but I find that while I am living in an attractive city—the nation's capital, in fact—I am compelled to work every hour when able, if I want to remain here. I find now that I made a great mistake in leaving the country. I have lost financially, morally and physically. It was wrong, decidedly wrong, to leave, not to return, but circumstances alter cases sometimes.

How I have longed for the plow, the reaper, thresher and the old cider-mill. To-day I would sooner listen to their clatter and screeching than the Marine Band on Inauguration Day, coming down the avenue.

I visited the old folks recently. They said they were sorry that they did not let me take the farm, as it had depreciated in value over three thousand dollars in twenty years.

Have not the parents some responsibility in the "rush of young men to the city?" Parents, if you have sons and daughters, do something to make the farm really interesting to them. Take the boys as partners. Turn the farm over to them for a year at least. I am confident they would make the old farm hum.

Allow them some pleasure, make the home attractive and inviting in every way possible and, above all, provide a good library and a comfortable place to read. All this can be done at a very little cost. If you have daughters, allow them a chance to be useful as well as ornamental. Give the dairy to them, get them started in the poultry business, and provide a garden-spot, either flowers or vegetables, or both. Let them manage things to their own liking. Remember, you have turned over things to the children, that this responsibility will put them on their mettle, and while they may make some mistakes, they will atone for them by the double earnestness of their work. Let them come to you for advice. Don't force it on them. You will find in a year or so, that not only will the old place increase twenty per cent. in value, but that you have a happier home, a kinder family, that you can spell contentment on every brow. This will all come so easy that you will wonder how it was done.

Some Pressing Problems of American Farmers—III.

The Case and Its Cure—By John Pickering Ross

It is the purpose of the series, of which this is the conclusion, to direct attention to some of the problems of the American farmer, the most serious of which, perhaps, is that of increasing the average production of food-stuffs, lest the demands of our increasing population outrun the national supply. Bound up with this are other farmers' problems, of labor and its management, of securing to country homes a larger share of the comforts of life and of diverting the flow of able young people from farm to city. Last month's article set forth the essentials of the farm management of the British farmer, whose success in solving similar problems, under conditions in some ways dissimilar, but in many ways more stringent, has been remarkable.

How is this story of the business methods and the domestic life of the British farmer to be of use to the American? It is offered merely for suggestion and encouragement, for what has been successfully done before can be done again.

It is worthy of note that at this period, when a succession of prosperous seasons have enabled the farmers of most of the middle West and West to clear off their mortgages and other indebtedness and to accumulate good round balances at their bankers, the ever-increasing cost of living, the decrease in the supplies of wheat, cattle, sheep and hogs, and the growing price of farm lands should have become so prominent a topic of talk and of newspaper comment. To this may be added the undeniable fact that on a too large proportion of our farms fifteen to twenty bushels of grain (the last reports on the Kansas average of the wheat production is thirteen to fifteen bushels), are allowed to occupy the space that should produce from thirty to fifty bushels.

So much land is being taken up by people not trained to agriculture that a great deal of this trouble must be ascribed to want of knowledge; but this excuse will not be long admissible in face of the vast resources for obtaining such knowledge which the federal and state governments, as well as many privately organized institutions, are offering to all.

Less Toil, More Planning

The life of the farmer should be the happiest and most independent of all. Statistics go to show that many more than half of all the men who go into trade or professions make a dismal failure of it, while a bankrupt farmer is a rarity. The prices of living affect him less than any one, for the main necessaries of life, and many of what may be called the luxuries, he produces, or should produce, for himself; and if he and his family fail to enjoy the ordinary comforts of life, not to mention its pleasures, it is generally because he has underestimated the importance and the vast possibilities of his calling and has been willing to work too much with his hands and too little with his brains, or to occupy the latter with trivial details.

The fact is that the land cries for more labor, while thousands of good men, able to satisfy the want, go almost begging. To a great extent it is "up to" the farmer to set this right; for it is a plain duty for the man who can find work for the unemployed to do so. It is a very practical form of patriotism.

The immense advances made in the invention and production of farm machinery certainly make field labor less severe, but do not dispense with the call for skilled farm hands. Up to the present time no machine has been found which will automatically feed and care for live stock, nor a machine which will, without injury to a young growing crop, pull up the weeds which, on rich land, will always be there, near to its roots, to rob it. The biblical method of letting them "both grow together until harvest" will not gee with intense farming, for the weed is smart enough to seed before the grain is ready for the reaper. Machinery in mill and iron works has increased rather than diminished the number of hands employed; and the same will be found to hold good in farming when thirty to fifty bushels of grain take the place of unfortunate thirteen. The student, returning from the agricultural college "chock-full" of farming lore, will soon find out that he can use it to better purpose than to allow himself to become a mere day laborer; and he will see to it that the man who is probably better fitted for hard work and less for planning than himself, gets his chance.

If it is true, then, that more labor must be employed; more live stock fed, and a proper rotation of crops introduced and strictly adhered to; if the land is to be made to produce all that it can without impairing its fertility, let us consider how these improvements can be effected.

First as to labor: How and where can the most desirable kind be found?

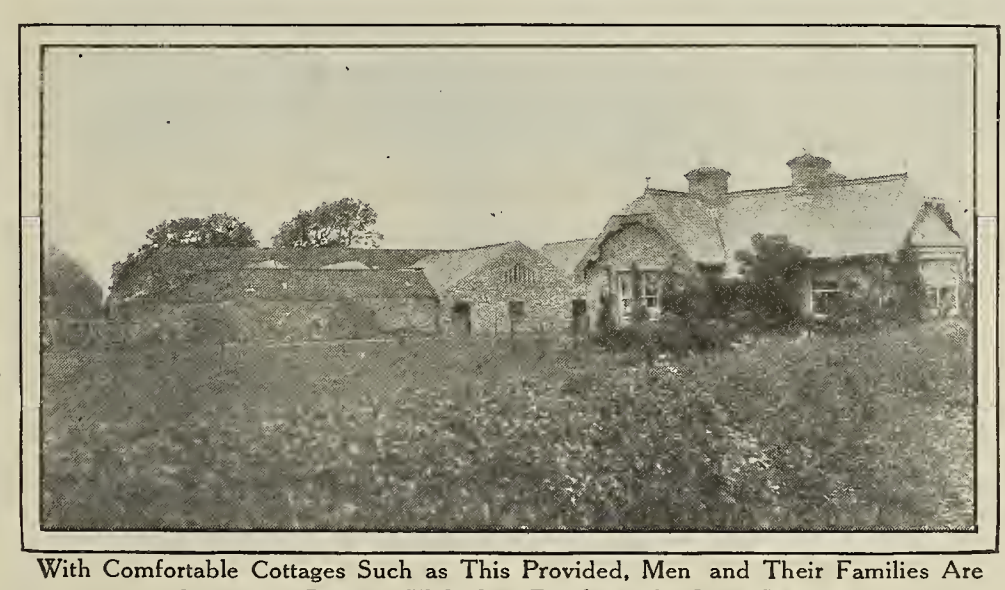
In all the larger cities there are Americans who, having quit country life with the idea that they would do better in the city, have found out their mistake, and would gladly get back to the land. Many of these have been farmers who have failed, not from want of industry, but of capital; or because they lacked initiative and managing capability. There are also many foreigners brought up on farms, the best of them for this purpose being English, Scotch or Swedes, who have tramped this country, taking transient jobs when they could get them, but longing for permanent settlement. Failing in this, they have drifted back to the cities

An Old-Time English "Hind's House," or Boarding-House for Farm Laborers

However, beyond fair and friendly treatment, good wages and attractive homes, there step in the temperamental peculiarities which often divide good men, and which nothing but the mutual determination to bear and forbear can bridge over; so perhaps it will be best to leave the ways and means whereby a good employee can be retained for each man to work out for himself.

If I were hiring men for this purpose, after much experience with all sorts and nationalities, I would try to get an American ex-farmer with a managing wife, he to act as a sort of foreman (if one could be found who would take orders), and as horseman. I would seek for a trained Scotch or English shepherd and a cattleman of the same nationalities. For field labor any sober, industrious man who has worked on a farm and will follow instructions can soon be trained to carry out the proprietor's ideas of how things should be done. One man with a fair knowledge of gardening and perhaps of caring for horses should be secured.

As to live stock: About every American who cares anything about animals knows that it does not pay to keep a scrub of any kind, be it bull or bull-dog, horse, hog or cattle. The well-bred animal ripens earlier, feeds faster and carries his flesh in better form and acquires it on less food than his under-bred fellow. He is generally more placid and better tempered and therefore



With Comfortable Cottages Such as This Provided, Men and Their Families Are Content to Remain With One Employer for Long Periods

Both of these classes of men can be found by using the want columns of the leading dailies of the nearest large city; or by employing the services of a reputable employment office. By describing exactly what is wanted to the manager of such an office, and being willing to pay for extra careful service, he may be relied on to find the right man, at least for a month's trial.

It is often more difficult to keep a good man than to find him. The labor account has to be constant, so first of all a call has to be made on capital to provide good and attractive homes. The farmer can afford to build either a house where the wife of a leading man can board the unmarried men; or, where none but married men are employed on the place —and this is often best—comfortable cottages, varying in size from three to six rooms. This may seem to be a large outlay, but it is generally a mistake, and adds much to the labors of the family, to board hired men in the home. Really nice cottages allure the most desirable class of farming men, and if they have grown-up sons and daughters who can be employed on the farm or in the house, a great step has been taken toward retaining them for long periods.

An Up-to-Date Boarding-House on an English Farm of To-day

easier to handle. He also catches the buyer's eye more quickly. But he is more prone to need good care; is less fit to rough it. Many farmers seem to think that any sort of treatment is good enough for young animals, but the truth is that once allowed to get stunted in growth or even to be subjected to a temporary setback for want of proper food or shelter in winter it is almost impossible to get them back to their best form. Man, in his sphere, should always be advancing onward and upward; and so the animal intended for his use as food should be kept advancing upward and round-about-ward. I have noticed that farm horses are much shorter lived in this country than in England, and impute it to the fact that over there they are as carefully groomed and cared for as our riding or driving horses.

A Running Mate for the Hog

Hogs will always and with good reason be the American farmer's best stand-by; but since mutton is all the time growing in popularity, especially as lamb, a few words about sheep may be of use to those who have not tried or not succeeded with them.

As to breed: Any of the Down varieties, Southdown, Dorset, Suffolk, Hampshire or Shropshire, both for mutton and wool, are best suited to this climate. They stand both heat and cold better than the larger, longer-wooled varieties, if the English breeds are to be used. They are healthier, more prolific and better mothers and they ripen more quickly.

Sheep have one virtue peculiar to themselves; when turned out on land fairly dry by Nature or by draining, their tread is invaluable for consolidating and their manure for fertilizing it. Sent into a young grain crop which is thought to be too rank, they will eat it down evenly without disturbing the roots, which their tread will press down more firmly than any roller.

The chronicling here of a little personal experience with this will be excused. Some twenty years ago an Eastern firm offered a prize for the best eight acres of wheat grown with their fertilizer. I determined to try for it, and they sent a liberal supply, free of cost. I measured off the land out of a field on which a crop of potatoes and early cabbage had been grown with a liberal dressing of stable and hog-yard manure. After well working the ground I sowed it, a little later than I had wished to do, with the fertilizer. It was covered nearly all the winter with snow. When spring came the wheat was thicker and ranker than I wanted to have it, and very loosely rooted. I had drilled it nine inches between the rows. I turned eighty wether sheep and a few ewes onto it, and they ate it down pretty close. Most of my neighbors said I was crazy, but I got the prize, and imputed my good luck as much to the sheep as to the fertilizer. This was in Illinois, on a gently sloping field of reddish loam on a clay subsoil.

Sheep are Healthy

Sheep are not subject to diseases such as hog-cholera or the epidemics so destructive among cattle. Scab and foot-rot, their two most common troubles, are almost unknown under a good shepherd. When great losses occur among them it is almost always caused by want of proper food and shelter in winter; troubles only to be avoided by care and forethought.

Mutton and lamb are so rapidly growing in popular esteem—and this is largely owing to the fact that we are just beginning to learn sheep-feeding—and are commanding so good a price, just now running hogs, at their highest, very closely, that it seems reasonable to hope that the day of the sheep is dawning.

As regards rotation of crops, unless the Western farmer is willing to see his land become, even in the present generation, as valueless for agricultural use as is so much of New England, he must adopt and adhere to some systematic use of restorative crops. Old experience and modern science unite in urging this. Choice of seed, careful cultivation, the liberal use of fertilizers, all these are good; but as long as the continued growth of cereals on the same ground in successive years is indulged in, certain deterioration, sometimes amounting to actual sterility is assured, even with the most fertile soil. The adoption of a special line of crop rotation depends on so many varying circumstances of locality, nature of soil, type of farming followed and other details that it would be well for all but the most experienced and scientific farmers to avail themselves of the help of the experts of their state board of agriculture, experiment stations or state colleges. The Division of Publications of the United States Department of Agriculture at Washington is issuing pamphlets and bulletins on the subject which, when recently issued, can be secured gratis from the Secretary of Agriculture, while older bulletins can be had from the Superintendent of Documents at Washington, for a few cents.

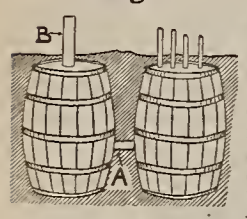
A very able article by Mr. J. C. Mohler,

[CONCLUDED ON PAGE 6]

Farm and Fireside's Headwork Shop

A Department of Short Cuts, New Wrinkles and Knacks

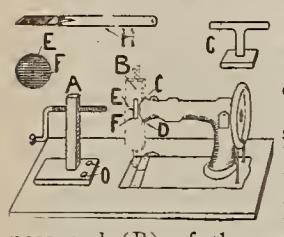
Underground Engine-Muffler



MANY farmers have gasolene-engines the noise from the exhaust of which is objectionable. This may be entirely done away with by the use of this simple muffler. Two barrels are connected by a pipe (A) the same size as the pipe that leads from the exhaust. Four or five small pipes are screwed into the top of one barrel and the pipe (B) from the muffler is fastened into the top of the other. Both barrels are buried so their tops are about six inches below the surface of the ground. This muffler will stop the noise entirely, and due to its large size it will not reduce the power of the engine.

ABNER B. SHAW.

Home-Made Lathe



HAVING often felt the need of a small lathe to turn out file handles, etc., and having an old sewing-machine on hand I worked out this device. With a sharp cold chisel I removed the business end (B) of the machine at C and D. Now I filed deep grooves into F and put in pin (E) to keep the turning article steady. Figure A was secured at small cost at a blacksmith shop and is fastened to the platform by two bolts at O. A rest for the cutting-knife is made like Figure G. The cutting-knife was made from an old file, as shown in Figure H. With this small machine, the highly prized grillwork, which adorns so many inside parlor doors, can be made with little time and small expense. I find much pleasure in using my lathe in my spare time before and after school.

E. CLAIR POWELL.

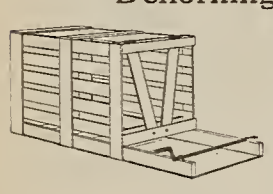
Chain Gate Fastening

A CHAIN is generally fastened to a gate with staples or wire, but that is insecure and unsatisfactory. The following device will fasten the chain so that it will stay there as long as the gate lasts.

Make a slot in the gate standard by boring holes close together. The bit used should be a little smaller than the iron of which the links are made, and the slot should not be quite as long as the width of the links. Clean the slot out with knife or chisel, and drive the end link of the chain through the slot until it projects about half an inch on the other side of the gate standard. Slip a piece of round iron through the link and drive the link back until it draws the iron tight to the gate standard, and you have a lasting job.

EUGENE STOLLWERK.

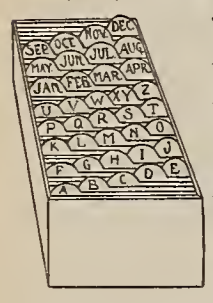
Dehorning Chute



CHUTES like this one can be constructed of two-inch lumber throughout, excepting for the two upper pieces on the sides, which are one by sixteen. A stanchion is provided at the front end with loose pins at bottom, which can be removed quickly and the animal driven out in front if desired. After the animal is fastened into stanchion a rope run around its neck and nose is fastened to the windlass and drawn taut. Bolts should be used throughout and clips on the cross-pieces to insure strength.

ARTHUR LOUDENBECK.

A Farmer's Card Index



WHEN I read an article in any paper that I think would be useful I mark it, and all the members of the family in turn likewise mark the paper. When all are through with the paper I cut out the marked items. Those bearing on the subject that would be useful at certain seasons are filed in the monthly file in rear of box and the others alphabetically according to subjects treated. In addition to this I have a daily file for anything to be attended to on a particular day. My box is fitted with four-by-six guides and cost eighty cents, but a handy man can make one that will answer just as well.

By following this general plan you may in time have a mine of useful information and have it where it can always be found. Any one keeping farm accounts or records of some test he is making can add an extra alphabetical index and file his records on cards. It is handier than entering them in a book.

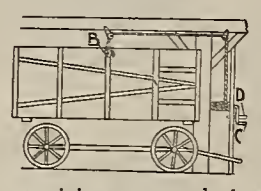
L. R. DAY.

To Make the Knots Let Go

HERE is a remedy for the hardest knot, in harness, straps, cords, ropes or even shoe-strings. Hammer the knot on all sides with a mallet or piece of wood, turning the strap or rope around. Then dip it in boiling water, holding it there a minute or two, according to the size of the knot to be loosened. Before doing so add a little soap to the water—common laundry-soap is the best. Then with a sharp-pointed instrument pick the knot loose. It can often be done with the fingers. Knots that have been pulled in harness or in ropes for months or years can be loosened readily. Knots in chains, when treated as above, can be loosened also.

S. T. RAY.

A Little Giant Racklifter



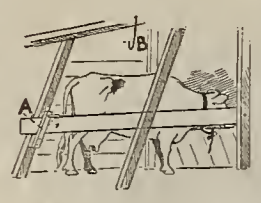
WITH the low-down handy wagon came the flat rack so generally used. The only objection to it is the weight when putting on and off the wagon (a job often requiring two and three men) and the want of a suitable place to store when not in use.

I overcome these difficulties in the following manner. On one side of the barn floor are two well-braced rests made of two-by-fours, and fastened about the height of the bottom of the rack, projecting a short distance out into the driveway. I drive up close to this side and raise the rack enough to catch upon the rests. Then I take the loose end of a rope that is fastened to the windlass arrangement (see sketch) and tie it to a ring-bolt (B) fastened in the opposite side of the rack. With the windlass (C) the rack is quickly turned up alongside the mow, and one does not miss the little space occupied.

The rack is in the dry instead of outdoors rotting and we don't have to call on the neighbors to help load and unload. The loose pin (D) is inserted in the upright that supports the windlass, to prevent the crank turning when the rack is up. An old fanning-mill crank or the raising and lowering gear of a discarded grain-binder can be made into windlass parts.

BERNARD F. DALZELL.

To Milk a Kicking Cow

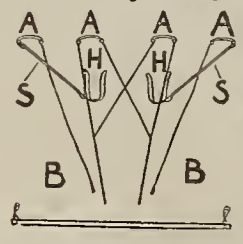


I HAVE tried a number of "sure thing" ways to milk a kicking cow, but never accomplished the job successfully until I hit upon this plan: Tie the cow in a stall, allowing her no surplus rope. To the right-hand manger post bolt (loosely) a board that will reach to opposite left-hand post at rear of cow. The board should be a little springy, but strong. A simple catch (A) holds the board in place. Since all stables are not made alike, I can give only the general principles. But the main point is to have the board so adjusted as to press firmly against the cow's right side. Thus a wedge-shaped space between board and partition is obtained in which the cow is securely held.

In the illustration the right-hand partition is removed to give a better view of device. A hook (B) made of heavy wire serves to hold board up out of the way when not in use.

R. A. GALLIHER.

A Jockey Stick Hitch

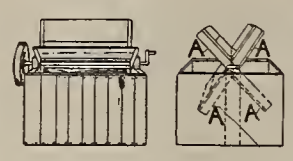


HERE is a way of harnessing three, four or more horses. Take a stout light stick three and one half to four feet long, and fasten a snap at each end by cutting a notch and tying with very strong cord. Fasten one end of stick to outside ring of outside horse's bit and the other end to hame of inside horse. Tie inside ring of bit of outside horse to back-band. This prevents crowding and a horse works fine as soon as he has become properly accustomed to it.

In the diagram AAAA represents the horses' bits, SS the sticks, HH the hames, BB points of fastening to back-band.

W. A. SEELY.

The Air Your Mill-Race



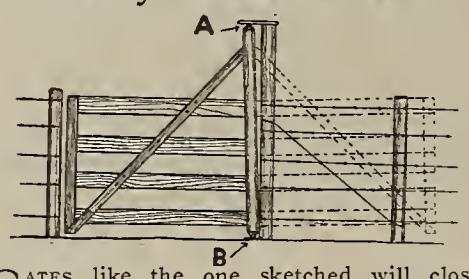
TAKE four pieces of two-by-four six feet long (AA), bolt them in pairs, each pair being crossed in X shape, onto a piece of four-by-four for a shaft. The shaft is shaved down round at the ends and run through a hole at the crossing of the two-by-fours, so that one foot on either end is left projecting for a bearing and pulley. Then take two twelve-inch boards six feet long and nail from one cross to the other on all four ends, making four paddles and you will have a windmill wheel that works just like a water-mill wheel. Place it on two posts across the direction wind comes from the most. Then build a square pen around it half-way up—high enough up, that is, so that the wind only catches the uppermost pair of paddles, and you will have power to run your corn-sheller, saw-bucks and grinder, pump your water and do a great many other things.

Or place the wheel so it projects half-way above the roof of some shed, and no pen will be necessary. Better still, locate the wheel between two sheds that come close together, so that the uppermost pair of paddles projects above the level of the roofs and gets the wind.

This plan is of most use in plains regions where the wind blows very steadily.

W. W. POLLOM.

Gravity Closes the Gate



GATES like the one sketched will close themselves from any position, also opening uphill on rising ground. The main points of this gate are: First, the long post of the gate should lean in at the top from the perpendicular six inches or a foot. This causes the front end of the gate to rise from the ground on its being opened and gravity will always bring it back.

Second, this gate should have small bearings. At the top a small bolt (A) should be driven in the end of the gate-post and should be a loose fit in a hole bored through the piece of plank nailed to the fence-post. At the bottom another bolt (B) should be driven in the gate-post with about an inch projecting for a bearing which should rest on an old piece of iron set in the ground with a shallow hole in it for the bolt to work in. This makes a slight contact and little friction. All my gates are made on this principle which may, of course, be modified to suit circumstances.

F. S. SUMNER.

So Nothing Escapes the Paint

THE quick and dandy way to paint a gate is to do it before it is made. Then all the joints and covered places that in the ordinary gate gather moisture and rot out are protected by paint and the gate will last much longer. If any future paintings are given, all the hard places to reach with a brush are already coated.

To do it, get a pair of trestles and tack a board on each so you will have room for all the gate boards to lie flatwise at once. Then clamp all your gate boards of equal width together, set them on edge and paint all the upper edges at once. Then turn them over and paint all the other edges at once. Then spread them out flatwise and paint their upper sides quick and easy like painting a floor. Turn and do the same to the lower sides and you will finish in a quarter of the time it would take to paint a finished gate.

Let the boards dry on the trestles, where a second coat may be given in the same manner if desired, leaving the final coat to be applied to the finished gate in order to cover up any marred places.

Of course, one cannot take a gate apart in order to paint it my way, but for that matter it has been my observation that the great majority of gates are only painted once, when they are new.

PAUL R. STRAIN.

Poultryman, Attention!

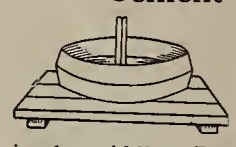
THE February 10th Headwork Shop will include a half-dozen poultry kinks which will be just what you want for hatching-time and chick-raising time and thereafter. You'll want to save them for your scrap-book.

Everybody!

Are you voting on these Headwork ideas? Remember, your vote on a postal, for the three knacks you like best, helps decide the regular prize award—five dollars to each of the three contributors whose articles receive the largest number of votes. Any subscriber can vote, or any member of the subscriber's family, provided the name of the one that takes the paper is mentioned, and no one else is voting on the basis of the same subscription.

EDITOR.

Cement Grindstone



YOU can make your own grindstone by the following plan. Take two barrel-rings and butt them together with the bigger sides in the middle. Brace them in that position by driving a circle of nails around them, for instance. Have a smooth platform of boards under them. Into this mold pour a mixture of one part cement and two parts sand. The sand must be fine, and all stones screened out with a sieve. Have a square wooden pin set up in the exact center of the circle, so as to have a hole for the axle when the stone is molded. The sketch shows the mold before the cement is poured in.

A. LUHNING.

Some Pressing Problems of the American Farmer

[CONTINUED FROM PAGE 5]

Assistant Secretary of the Kansas Board of Agriculture, published last winter, showed the immense advance in productiveness of that state in the last twenty years. The record of Kansas is duplicated or approached in a dozen other progressive states.

Mr. Mohler gives well-deserved recognition to the industry and patience of the men by whom these results have been achieved. There is comfort in the thought that such men are certain to avail themselves of the knowledge of all the recent advances in scientific agriculture which the states are so liberally putting within their reach. In doing this they will be able to rejoice in the assurance that their children's children will wonder, not so much at the productiveness of their native state, but that "gran'pa" was such a splendid farmer that he made the old home farm, which they love, grow fifty bushels of wheat where it only used to grow fifteen, when he was a boy, and left it for their enjoyment more fruitful than ever.

By that day it is even possible that the packing-houses, cold-storage concerns, produce commission men, and even the butcher, milkman and grocer may have been chastened into some consideration for the unfortunate "ultimate consumer." But may it not also have happened that after effecting this wonderful reformation of the middlemen, the always hungry public may turn its eye on the farmer, so that he who has not made the earth, the mother of us all, to yield all that was possible of increase without destroying her fertility, may be held up to public reprobation as a "cumberer of the ground?"

The Magic of the Velvet Bean

[CONTINUED FROM PAGE 3]

Jack and Missie think I am something of a crank, Missie especially so. She, as I have told you before, is from Missouri, and farmers there when she was a kid thought it ridiculous to continue to cultivate a crop after the weeds were killed—and then she everlastingly persists in reminding us of the additional expense.

When we picked that corn on Mr. White's farm the vines were so entwined around the stalks in many places as to interfere somewhat with our work. By late September the corn-stalks in some places were covered out of sight under great green hummocks four or five feet deep. This growth continued unabated until the first frost. By that time there were tons upon tons of green stuff to the acre as appetizing to hogs and cattle as clover. They can graze on it till spring, since the density of the foliage protects the lower leaves and vines from the occasional frosts occurring here during the winters.

But not less important is the fact that just beneath the surface the legume nodules will have stored up in that field great quantities of soil-enriching nitrogen gathered from the atmosphere. The expense was trifling, seventy-five cents for a peck of beans and less than a day's labor to the acre. Why, then, cannot this be made a great corn and hog producing country in which, alternating corn with cotton, and growing the velvet bean with the corn, the soil, instead of deteriorating, will steadily improve in fertility, notwithstanding uninterrupted croppings?

The velvet bean does not thrive well, so I am informed, further north than a hundred miles or so from this latitude, and the farmers here are only just beginning to awaken to its value. Mr. White seems to have been the first one in this vicinity to demonstrate perhaps the most effective way of using it. I have not begun to tell all that I want to say about this wonderful legume and of the plans and speculations and pipe dreams regarding it—literally pipe-dreams with real smoke—in which Captain Jack and I indulge when the day's work is over, sitting in those easy chairs on the gallery. Of course, we are always being interrupted by more or less sage observations from Missie. She will talk and she does like to throw cold water, ice-water sometimes. I shall reserve some of those pipe dreams for my next.

This is the second of a series of letters from one of the most interesting dairy farms in America. The third will appear soon.

Trees are Treasure

A Selling Lesson for Woodlot Owners

It is more of a puzzle to sell wood-lot products than to grow them. Ordinarily wood grows itself without attention and even the specially tended wood-lot, where the stand is carefully thinned, the crooked trees culled and the young growth looked after, takes less work than any other similar sized area on the farm. But the selling of wood-lot products, where the best paying market is sought out and the ultimate dollar squeezed from the deal, is a matter requiring a good deal of forethought and real salesmanship.

The market for farm wood-lot products can, for convenience, be classified under four heads: Fuel (eord-wood and the like); wood for lumber (sold in the log to sawmills, usually); posts, piles and other timber finished on the ground (including fence-posts, telegraph-poles, railroad-ties, etc.), and woods for special purposes (both those high-priced woods which entcr into manufactured articles and wood for paper pulp, acid manufaeture, etc.). Fuel, of course, sells lowest, and special-purpose wood best of all. The object of the farmer-salesman should be to sell his wood to those who will put it to its highest possible purpose, and who will be willing to pay proportionately good prices for it.

The fuel market is most available, and most farmers probably realize all its possibilities. The low-priced gasolene-engine has, however, opened up one new possibility in fuel marketing—the preparation of wood in short lengths for city consumption. This sawed-fuel trade is, of course, limited to regions within easy hauling distances of cities, over fair roads. Granted this condition, the city wood-yards can be canvassed personally or through city friends or, better yet, individual customers found among the "ultimate consumers," by direct solicitation or through the wood-markets which some cities have in connection with their hay-markets. In the East this business is increasingly popular among farmers near cities, who want to fill out the slack season and hire their men by the year. A Virginia subscriber, Mr. H. E. Smith, wrote interestingly of his wood-cutting experience in the November 25th Farm and Fireside (Page 4).

The problem of selling heavier timber to sawmills to be worked into structural lumber differs so greatly under the conditions of each locality that a discussion in more than general terms would have little value. Of course, a market within hauling distance, if there is such, is the most desirable. Where it is necessary to ship by rail, the problem is first one of getting together car-load shipments. Unless it is possible to make up such shipments from a single wood-lot or, by coöperation, among several wood-lots of neighbors, shipment is almost out of the question, for freight rates on smaller quantities are almost prohibitive. Furthermore, few mills will consider buying anything less than a car-load.

Poles Bring Easier Money

Before attempting sales outside of his own neighborhood it is necessary for the wood-lot owner to figure very exactly what it will cost him to get out the timber, deliver it at the railroad, and ship it. Only on sueh a basis can he tell whether the offers he may receive from the mills, when he solicits their trade, will give him an adequate profit. Some, though not all, mills will assume the shipping charges, the price paid the shipper being then proportionately less, of course.

Small wood-lot owners often have difficulty in securing their first orders for timber whieh they are to get out themselves. Sawmills and other buyers are slow about ordering from men who handle limited quantities, who are personally unknown and whose timber is of more or less unknown quality. Such a business has, therefore, to begin locally and grow slowly.

The case of posts, poles, etc., is a little different. Posts, of course, have a neighborhood market. The profits that have been gained in actual practice of post-growing are set forth by Mr. Markley, below. The following facts on poles and piling are quoted from "Farm By-Products," the great Farm and Fireside manual of side-line profit-making, and are based on the actual experienee of farmers:

Poles are worth good money to electrical companies. If you can get together a car-load of cedar, chestnut, cypress, juniper, pine, oak, fir or redwood poles, you can get a tidy sum for them. They must be reasonably straight, and their value increases rapidly with their height. In 1906, the cedar poles used by electric companies averaged $4.23 each; chestnut, $3.71; oak, $2.35; fir, $2.29; redwood, $5.28. Good forty to sixty foot, straight shapely telephone-poles cost as high as $25.00 each, and even more. Look your trees over, and talk with the manager of the nearest electric eompany. Tell him what you have. If you have a car-load, or more, get into touch with jobbers, unless you have a local market. Good locust poles are salable in limited numbers sometimes for the pillars of arbors and pergolas. Where trees have special uses, it is a waste to sell them for ordinary uses.

Piling for docks, wharves, bridges, foundations and other heavy building purposes is sometimes bought at very high prices. Any wood-lot which has good, straight hard wood, or even coniferous trees, not quite up to the elcetric companies' standards, and up to twenty-four inches aeross the stump may have a little treasure in piling—especially if the publie work is within hauling distance. Piles sell readily in car-lots.

Railroad-ties are still frequently got out on contraet, though many roads now grow their own timber. The man with a small sawmill is in best shape to handle such contracts, but farmers can often get them, also.

The selling of the fourth class—the finer woods, for cabinet, furniture, wagon and tool work, and other special purposes—is ably and fully discussed, below, by Mr. W. T. Christine, editor of the American Lumberman, Chicago.

Nothing has been said so far about the common practice of selling trees as they stand, for a lump sum or on the basis of an agreed-upon "stumpage" price, the buyer to undertake the cutting. Such an agreement is often the only one possible for the farmer whose help is limited or who cannot connect with any other market. But such contracts often work disadvantageously to the farmer in two ways—first, the lumbermen are rarely careful of the young growth, which must be depended on to restore the wood-lot and make it a perennially paying investment; second, their buyers are inelined to drive bargains that leave the producer a very short end. Even where the wood-lot owner is not overreached on the estimate or even the measurement of the eut timber, the price is not held to any fixed standard, but is in eaeh case driven just as low as the farmer will permit. This is not the case in regions where lumbering is a leading industry and prices well known, but it is undoubtedly true where lumbering is a side-line and many sellers are uninformed. The only remedy is coöperation—either in getting out wood or in collective bargaining with the lumber buyers.

The Low-Priced Gasolene Engine Makes Possible the Production of Sawed Fuel

One Tree Farmers' Experience

Growing of trees for posts and poles very properly received early official attention in Ohio. The Wooster Experiment Station, by its system of coöperation with the farmer, placed a trial plat in almost every township in the state. Many of these were not given the proper care and proved of little value, but where they got into good hands a valuable lesson was taught.

It was easily proven that the acre planted to post timber would produce one hundred posts for each year of its growth, a splendid rental for even good farm lands. This is no longer simply an estimate of the probable yield figured on paper, but is borne out by the results of groves that have been cut and posts sold.

A loeust grove twenty years old near me, cut last spring, produced twenty-five hundred posts, bringing the owner five hundred dollars. There was exactly an acre in trees making an average of twenty-five dollars a year for the use of the land. Very little, if any, expense had been put on this grove except the planting and cultivating the first year and the cutting of the posts. This grove was planted quite close and would have been still more valuable if thinned ten years ago to half the stand. The owner expects to allow sprouts to come from the roots for another grove without planting.

This comparatively prompt return on the investment appeals to us farmers, and there is no longer any danger of a post-timber famine. In my own county (Morrow, Ohio) there are about sixty persons growing post-timber trees. My own planting of eight thousand trees will supply several square miles of farming country with posts, even though none of my neighbors grew any. We believe that every farm of one hundred acres or more could well have one acre of post timber as a matter of convenience, as well as profit.

The Ohio forestry department, having started this planting, found that the farmers were taking it up in a way that promised a future supply of posts without much more help from the state. Therefore, they took up the much more important problem of how to improve the farm wood-lot—more important because most farms in Ohio as in fact in all but the prairie states, have the remnant at least of a wood-lot that if properly cared for would largely reforest itself without any large outlay either in time or moncy. It is from the second growth of these wood-lots, too, that we must look for our future supply of lumber, building timber and fuel. The growth of farm wood-lots is not only a matter of individual profit. It is part of a necessary national movement.

It is a little difficult to arouse interest in tree growing, because the returns are sure to be slow. If, however, it is demonstrated that a wood-lot, well cared for by keeping live stock out of it, by cutting out worthless varieties of young trees, and interplanting when necessary, can be made to yield a fair income, besidcs yielding farm fuel and rough lumber.

Another forestry problem that appeals to me is the planting of the very rapid-growing varieties of trees. We can be sure that in the near future there will be no kind of timber but will be of value. Twenty years ago we were yet burning large elm trees because there was no sale for them and then the demands of the hoop-making industry caused elm in a few years to advance to twelve dollars per thousand. We have looked upon the cottonwood as almost worthless, but we know now that its lumber, properly dried, takes the place of the high-priced poplar for many uses. Cottonwood fiber, shredded fine, is also being used in plaster instead of hair. The shredding machine works up even the small trecs that are obtained in the necessary thinning.

We ean be sure then that the future will demand all the timber of whatever kind we may grow, and he who plants rapid-growing trees will be sure of a market for them. To test the rapidity of growth of the various kinds, we are planting this year a grove of three hundred trees consisting of tulip poplar, Norway poplar, Carolina poplar and cottonwood, and we expect in a very few years to have a grove that will not only be a thing of beauty, but a promise of a very profitable investment in the future.

Horatio Markley.

Bonanzas of the Wood-Lot

Beyond what might be called the "coarse" timber market there is still another and more exacting market demanding a high quality of wood to be worked up into various manufactured articles. Usually a "buyer" for wood-lot logs or bolts, in which form the product must be marketed, can be found, at least in regions where there is considerable timber produeed and shipped.

Sawmills, veneer faetories, handle faetories, manufaeturers of spoke rims, hubs and wood specialties buy these logs in their crude state and shape them for the subsequent user—furniture-maker, vehiele-maker, implement-maker, etc. With this subsequent use the producer of the log or bolt has no concern.

It does not pay to send to this market timber containing serious defects. Crooks, shake, knots, pin-worms, punk or dote are serious defects, the damage depending upon their number and the area affected.

Diligent inquiry should be made locally to ascertain the nearest and most remunerative source of demand. If there is no "buyer" in your region any finished product can be traced through the local dealer to the producer, and from the latter it should be possible to secure a list of those supplying the wooden parts. The exercise of a little ingenuity should result in securing the desired information. For instance, the man with hickory to sell could get the names of ax and hatchet makers from his hardware-dealer, and then write those firms for the addresses of handle factories which might buy his hickory.

Wood-lot products should be shipped in car-load lots with the exception of the log or stump of fine quality of figure suitable for the manufacture of fancy veneers. Local agents will supply information regarding minimum weights. Usually the nearest market is the most profitable, because of high transportation cost.

Poplar, cottonwood, willow, basswood, hemlock, white pine, spruce and similar varieties are used by pulp and paper manufacturers. Pulpwood usually is wanted in four-foot lengths. In this case the timber must be sound, but knots and crooks are no defect. The lake states and the Appalachian Mountain states are the homes of the principal paper and pulp factories.

Log values are determined by size and quality. A log thirty inches in diameter is of much greater proportionate valuc than a log fifteen inches in diameter. It enables the manufacturer to produce wider lumber, which commands higher prices.

Wood-lot Aristocrats

Veneer manufacturers demand the very highest qualities of timber and pay the very highest prices. The varieties employed are white and red oak, walnut, also walnut stumps, cherry, birch, maple (bird's-eye) and curly ash, birch, poplar, ctc. A curly tree is a freak growth and commands a fancy price. They are rare. It scarcely pays to bother with walnut stumps, as only one in fifty is of value.

Persimmon, osage orange, dogwood, catalpa and others of like physical character have a good market value, but are rather difficult to sell owing to the small number of concerns using such timber. From some sections the freight rates to the factories using these woods would be prohibitive.

Hickory and ash are worth more to handle and spoke manufacturers than to any other class of buyers. Heart red cedar commands a good price from pencil stock concerns, of which, however, there is a very limited number.

The following list of prices shows the wide variation between the lowest and the highest prices, governed by quality, size of log, etc., and varying with individual coneerns. These prices are for a thousand feet of timber log seale. One and one half thousand feet of timber is the equivalent of a cord of wood. This basis of comparison should enable the owner of the timber to determine whether his logs are of greater value as firewood or as saw-logs:

Range of Log Values

	1,000 Feet Log Scale
Black walnut	$25 to $75
Black cherry	25 to 60
Yellow poplar	15 to 40
White oak	10 to 40
White ash	10 to 25
Hickory	10 to 25
Red oak	8 to 30
Sugar maple	5 to 15
Cottonwood	4 to 16
Red gum	4 to 17
Elm	4 to 17
Basswood	4 to 25
*Chestnut	4 to 12
Birch	8 to 20
Beech	3 to 8

*Chestnut also has a value of $3 to $5 a cord as acid wood. W. T. Christine.

The Ohio Experiment Station furnishes the following list of special uses to which trees common in the Middle West are put: White oak, veneering, furniture; hickory, spokes and handles; white ash, handles and implements; black ash, basket splits; buckeye, artificial limbs; yellow poplar, pumps, houses, buggies; sugar maple, flooring, ceiling; red maple, flooring, ceiling.

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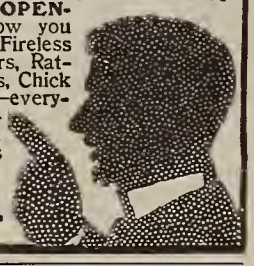

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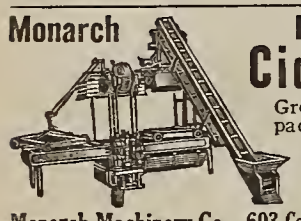

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Gardening---By T. Greiner

Seed-Peas are Scarce

You like green peas? So do I. You will have to buy seed-peas? So will I. The crop was practically a failure last season, and seed-peas will be scarcer and higher priced than I have ever known them to be. Much old seed was in the market a year ago. Some of it did not come up well. We will have to look out this time. Reliable seed-houses will sell us good and fresh seed that will grow. I am going to secure my stock early, and from sources that are above suspicion. When we have to pay from seven dollars to twelve dollars a bushel, or from two dollars to three dollars a peck for our garden peas to plant, and can plant only about seventy-five feet of row with a quart of seed, we want to make sure that we get a full stand.

Seed of the Big Onions

The seed-crop of the Gibraltar onion, the biggest of the tribe, was also a failure in 1910. Last year we could buy this seed only by the ounce. This year we will only be able to get it in small packets, and the price is high.

As in the case of garden seed-peas, however, we must try to make every seed count. This onion is a choice product. I propose to spray mine with lime-sulphur solution the coming season, or dust them with slaked lime and possibly flowers of sulphur as a protection against the vermicular rot, and then put them on the market in small packages (not over a peach-basket) at advanced prices. Heretofore I have sold them for one dollar a bushel right along. With seed failure and higher prices year after year, we may not be able to continue doing that.

The Scallion Problem in Onion-Growing

In all onions that grow large we usually find a proportion of thick-necked ones, so-called "scallions." We are satisfied if the proportion is not large. This is probably an inherited tendency which may be helped along by excessively wet weather or lack of drainage, and also by lack of mineral plant-foods or else a preponderance of nitrogen in the soil.

Dry soil and the application of lime, phosphate and potash in one form or other will in some measure counteract the tendency to degenerate into scallions. Lime may be applied in fall or early spring, at the rate of one ton of the freshly slaked or two tons of old air-slaked, but should in any case be well mixed with the soil. Such lime applications need be made only once in five or six years.

Late and Hollow Celery

J. V. W., a New York reader, asks: "What ails my celery? Plants were set in a row sunk some eight inches, with three inches of rotted manure under them. They seem healthy, but do not bleach at all. The stalks are hollow. I banked them well."

This undoubtedly comes from a novice in celery-growing. An expert in our times would not sink the row eight inches. We now all plant on the level, or nearly so. Some of our late-keeping or winter sorts, like Giant Pascal, are very slow to blanch. They usually do their best in winter storage, in trenches, root cellars, etc. But if hard to blanch, they are exceedingly fine and brittle, and ordinarily quite solid. I find occasionally a hollow-stalked plant among them this year.

My advice to the novice, however, is to plant mainly the self-blanching sorts, such as White Plume, Golden Self-Blanching and Chicago Giant. He will be more certain of satisfactory results with them than with the green winter varieties. Beware of cheap seed, however. The best French-grown celery-seed is none too good. Buy it in preference to the cheaper California-grown seed, even if you have to pay a much higher price for it. You will be more likely to get solid stalks and the lowest percentage of bolting plants (plants that go to seed). The self-blanching sorts are easy to grow and easy to blanch. Then gradually try a few of some good late or winter sorts. If chemical mineral fertilizers are easily obtained, use them in combination with the stable manure or rotted compost.

New Green-Onion Culture

A lady reader in northwestern Pennsylvania inquires about her chances of success growing the White Portugal or Silverskin onion for selling as a green or bunch onion. I believe the chances in that locality are as good as mine here in Niagara County, New York. The climate is not materially different. This onion variety is quite hardy here and not easily winter-killed. My soil is a strong clay loam and very well suited for this crop. Started promptly August 1st, on richest ground, the onion-plants make such strong root growth and are so well braced in the ground by winter that there is little danger of their heaving out even if left without mulch in a cold spell and on bare ground. The good top growth is apt to catch the snow and perhaps dry leaves that are blown on the patch by the late autumn winds. I have never mulched my crop, but intend to do that this winter.

This new method of growing green or bunch onions for use in early spring is without question the most interesting and most important of the newer developments in our garden practices, at least to every one who likes such onions or has a good local call for them during April, May and June. At that time, and in the absence of something better, people will eat the old Egyptian or winter onion, a poor thing at best; in fact, just as poor as the Portugal or Silverskin is good and enjoyable. Nobody ever thinks of mulching the winter onion, as it is as hardy as it is poor. Nor will you find it necessary to mulch or protect in any way the White Portugal, which is nearly as hardy as the other. Give it half a show and it will come out all right.

Fertilizer Arithmetic

I HAVE at hand, here on my West Virginia farm, a few tags taken from bags of fertilizer sold in this locality. Two of them are so-called "special" fertilizers. They are also called "complete" fertilizers because they contain a per cent. of all three elements regarded as valuable in fertilizers. One of the others is a phosphate-and-potash mixture, and the other is a fourteen per cent. acid phosphate.

I have worked out a comparison of the actual value of the plant food in these fertilizers and their retail prices in our neighborhood and found a rather amazing difference. I here outline my calculations, both because these cases seem typical and because similar methods can be applied by brother farmers to the solution of their own fertilizer problems.

The retail price of the acid phosphate is eighteen dollars per ton and the freight from the point of purchase to the local point of distribution on a ton of fertilizer is $4.80. Now if we deduct that freight from the retail price—$18—we find the manufacturer's price plus the local agent's commission—$13.20. As there are two hundred and eighty pounds of phosphoric acid in one ton of this goods we find that the cost of one pound of acid phosphate is 4.7 cents or practically five cents per pound of available phosphoric acid.

The wholesale price here of sulphate of potash is about forty-eight dollars per ton, and calculating it to be fifty per cent. potash we find one thousand pounds of potash to be worth forty-eight dollars or 4.8 cents per pound, so we may calculate potash at approximately five cents per pound. Nitrogen is worth near fifteen cents per pound, though the price varies to some extent, according to the carrier of nitrogen.

On the basis of the above values let us figure the real worth of three "special" or ready-mixed fertilizers and see how their real value compares with the price asked. The tag from the potash and soluble bone mixture indicates ten per cent. phosphoric acid and two per cent. potash, which gives two hundred pounds of phosphoric acid and forty pounds of potash per ton. Calculated at prices figured out above:

200 lbs. phosphoric acid, 5c. a lb	$10.00
40 lbs. potash, 5c. a lb	2.00
Freight	4.80
	$16.80

That total indicates what this mixture is really worth on the basis of the values of its separate constituents. It retails, however, at $18.40.

The next brand considered is "corn special" and contains eight per cent. available phosphoric acid, two per cent. potash and 1.65 per cent. nitrogen. This gives one hundred and sixty pounds of phosphoric acid, forty pounds of potash and thirty-three pounds of nitrogen per ton, which we price as we did the others:

160 lbs. phosphoric acid, 5c. a lb	$ 8.00
40 lbs. potash, 5c. a lb	2.00
33 lbs. nitrogen, 15c. a lb	4.95
Freight	4.80
	$19.75

The retail price of this brand is $26.20, or $6.55 more than the calculated commercial value.

The next is a "potato special," retail price $27.40, which contains one hundred and sixty pounds of available phosphoric acid, one hundred pounds of potash and 16.6 pounds of nitrogen per ton. Calculated as above we have:

160 lbs. phosphoric acid, 5c. a lb	$ 8.00
100 lbs. potash, 5c. a lb	5.00
16.6 lbs. nitrogen, 15c. a lb	2.49
Freight	4.80
	$20.29

A summary of the above results does not show up very favorably for the special fertilizers, since it shows that farmers pay more for them than the plant-food in them is worth.

	Retail Price	Value of Ingredients	Difference
Dissolved bone & potash	18.40	16.80	1.60
Corn special	26.20	19.75	6.45
Potato special	27.40	20.29	7.11

An investigation of the above shows quite a margin for the manufacturer for mixing the goods, since the agent claims to make only one dollar per ton on each of these fertilizers. The difference between the cost of the special fertilizers and the cost of equivalent plant-foods bought separately is chargeable only to skill in compounding and labor of mixing the goods. Could not any farmer who has knowledge of the composition of fertilizers make money at mixing them at $7.11 per ton? Would it not pay the farmers who use fertilizers to buy a standard work on fertilizers, study up the subject, buy just what they want and mix it themselves? A. J. LEGG.

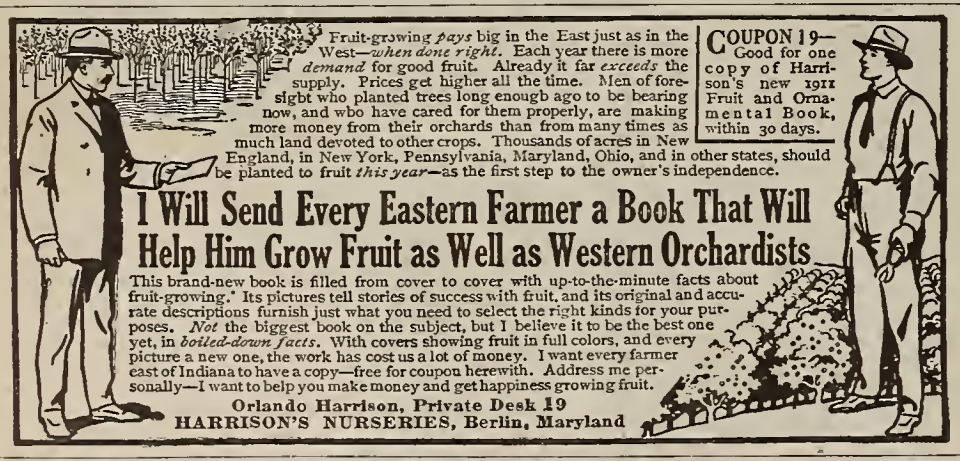
Rough on Aphis

DURING the past year several of our neighbors have been bothered by the attacks of "lice" on their cabbages. These were the small mealy plant lice called cabbage aphides, which seemed to work by sucking the juices of the plant. They were mainly on the under side of the leaves and were dusty brown in color.

In my own garden I tried several remedies that did not succeed very well, but the last two I tried did the work. They were kerosene emulsion and tobacco decoction. I don't recommend these remedies as new, for I believe they are not, but at any rate the following mixtures, which I used on two different parts of my patch, for an experiment, were successes.

Kerosene emulsion: I mixed half a pound of hard soap with a gallon of hot water and when it was dissolved added two gallons of kerosene and churned it up till it looked creamy. This was diluted with about forty gallons of water before using and put on with a small hand-power sprayer.

Tobacco decoction: One pound of tobacco stems were boiled forty minutes in two gallons of water, then strained, and enough water added to make an even two gallons again. This was diluted to fifty gallons just before applying with sprayer. E. E. JARVIS.



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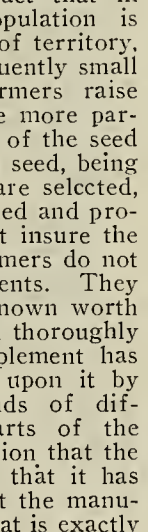

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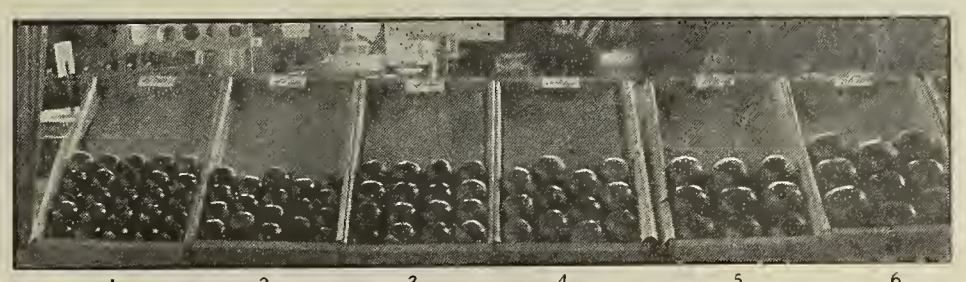
The Secret of the "Pack"

By C. C. Vincent



Figures: 1 2 3 4 5 6

Showing How to Start the Top Layer of the Packs Described

IN THE last issue of FARM AND FIRESIDE the equipment necessary for high-class fruit-packing was described and the preliminary steps that precede the actual boxing were outlined. Now for the making of the packs.

The first step—Apples of a uniform size are brought to the packing-table. They have been graded previously, probably with the grading-board described in Part I. The box is placed on an incline before the packer and he proceeds at once to line the sides of the box with lining-paper. The next operation is that of placing in the layering paper. (After the pack is completed a cardboard should be placed on top before the ends of the lining-paper are folded over.) Next, having the paper in place, the packer will hook the "hod," which is a device shaped so as to hold the wrapping-paper over the side of the box.

How to wrap the apple—Most packers have their own way of wrapping the apple. We prefer the following: One picks the paper up with the left hand, at the same time reaching with the right hand for the apple, which is placed in the center of the paper diagonal with the corners. The outer edges are pushed up over the apple, which is now turned, bringing the smooth surface up and the bunch of paper on the bottom. This serves as a cushion. The apple is now placed in the bottom of the box. This performance is repeated until the layer is finished.

To aid the packers in picking up the paper, a rubber band is placed over the thumb or fore-finger. An expert can wrap from fifty to one hundred boxes per day. His ability, of course, will vary according to his practice and training in that line.

Style of packs—At the present time there are two styles of packs, known to the trade as the straight and diagonal. The straight pack is so called because the rows run straight across the box. This pack includes the three, four and five tier apples. It is very neat in appearance, but rather severe, as each apple tends to be pressed against surrounding apples. The diagonal pack is so termed because the apples run diagonally with the edge of the box. Two advantages of this pack are:

First, it accommodates sizes that do not adapt themselves to the straight pack.

Secondly, there is less danger of the apples bruising in transit as they adjust themselves more readily to the space in the box when pressure is brought to bear.

All two and one half, three and one half and four and one half tier apples can be placed in the diagonal pack.

Growers in almost all the prominent fruit sections are discouraging the use of the straight pack, on account of the bruising of the apple.

When the two sizes of boxes are used all apples may be packed diagonally. For instance, the apples that would pack straight in the special would pack diagonal in the standard.

The number of apples that can be packed in each box, according to the tier labeling, is as follows:

3 tier apples in the standard, 45 to the box.
3 tier apples in the special, 54, 63.
3½ tier apples in the standard, 64, 72, 80, 86.
3½ tier apples in the special, 96, 104, 112, 120.
4 tier apples in the standard, 96, 114, 112, 120.
4 tier apples in the special, 128, 144.
4½ tier apples in the standard, 150, 163, 175.
4½ tier apples in the special, 185, 200.
5 tier apples in the special, 200, 225.

Unless the apples have been properly graded beforehand, no such system of classification can be obtained.

How to start the packs—Very little trouble will be experienced in starting the straight packs, if the apples have been properly graded. With the three-tier pack, three apples are required to fill up the space across the bottom of the box. There are also three layers in depth. See the box designated as Figure 5 in the illustration. This photograph shows the top layers of six boxes packed by the various methods herein outlined.

The four-tier straight pack requires four rows in width and four layers in depth (see Figure 3), while the five-tier requires five rows in width and five layers in depth (see Figure 1).

The diagonal two-and-a-half-tier pack (Figure 6) is started differently. The first apple is placed in the middle of the lower end of the box and two apples are pressed firmly in the places which are left, as shown in the illustration. In this style of pack there are two and a half rows in width and three layers in depth. This is not classed as a commercial pack, for it is only used to accommodate very large apples on special occasions.

The three-and-a-half-tier pack is started by placing the first apple in the lower left-hand corner of the box and another in the center.

[CONCLUDED ON PAGE 14]

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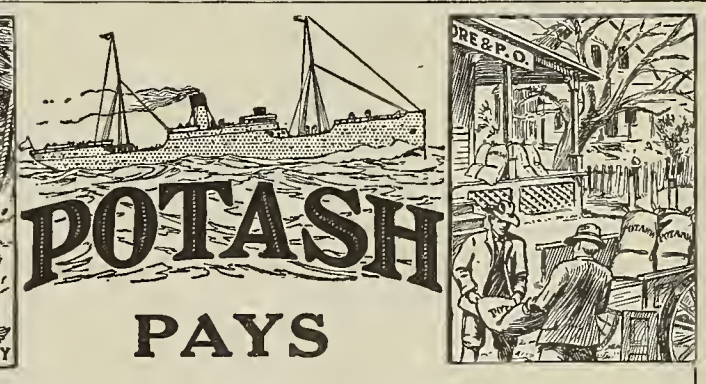

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Live Stock and Dairy

Selecting Our Butter Bacteria

THE taste of butter is affected by tbe feed of tbe cows, by tbe air surrounding the cream or by tbe bacteria in tbe cream. In 1890 an advanced step was made in dairy science wben Professor Storcb of Copenhagen, Denmark, discovered the fact that the flavor of butter could be largely controlled by governing the kind of bacteria found in the cream. To secure the full effect of these "starters" of selected bacteria, the bacteria originally present in the raw cream were destroyed by heat. If cream is Pasteurized at a temperature above one hundred and forty degrees Fahrenheit, tbe bacteria present will be killed. If tben the selected ferment be added, the nature of the flavors formed will be due mainly to the development of the selected organism. Tbe use of Pasteurized cream and pure culture starters tben began in Denmark, and in less than a decade had revolutionized the dairy industry of that country, admittedly one of the most progressive in dairy matters.

Tbe benefits of the system are uniformity, clean, sweet flavor and keeping quality, although objection may be taken to the greasy texture which it has been assumed Pasteurized butter usually possesses.

Methods of Pasteurizing

The destruction of the bacteria which would interfere with the desired growth of pure culture starters in the cream is usually accomplished either by heating the milk to a Pasteurizing temperature at the time it is run through the separator or by Pasteurizing tbe cream after separation. The latter method is more commonly practised. There are some advantages, however, in Pasteurizing the milk. When milk is Pasteurized at the time of separation, a larger quantity can be efficiently skimmed than when the skimming is done at ordinary temperatures. Considerably more fuel is required to heat the whole milk, however, on account of the greater volume of liquid that is handled. Furthermore, the skimming of hot milk interferes with tbe smootb running of some cream separators, for wbicb reason the cream and skim-milk are generally treated separately.

The Pasteurizing of cream is done in two different ways: First, by bolding it at a proper temperature for fifteen to thirty minutes and then cooling to a ripening temperature; second, by running it through a continuous-flow Pasteurizer in which tbe cream is heated as it flows. Naturally, the latter method gives a much greater capacity per unit of time, but tbe bacteria are not destroyed so completely, as tbe period of exposure in the continuous-flow machines is very brief. This is not so important in the preparation of milk or cream for butter-making as it is wben this product is Pasteurized for direct use.

Benefits of the Method

The advantages of Pasteurizing are, briefly, as follows:

First, by using tbe modern Pasteurizer for heating and cooling the cream, the former objections to the body of Pasteurized-cream butter are overcome.

Secondly, the flavor of the Pasteurized-cream butter may be made much more uniform from day to day than is the case when butter is made without Pasteurizing the cream.

Tbirdly, Pasteurized butter will keep longer and hold its good qualities better tban that made from tbe raw cream. Most of the advantages in flavor may be obtained in Pasteurized butter by the skilful use of starters, and tbe butter-maker is more sure of obtaining satisfactory results with starters wben they are used in Pasteurized cream than in raw cream.

It has now been shown that sour cream may be successfully Pasteurized, and tbat unless the sour cream contains over thirty per cent. of fat, it may be Pasteurized and churned without much loss of butter in the buttermilk. A tbin sour cream, however, containing in tbe neighborhood of twenty per cent. fat when Pasteurized and churned, sometimes leaves too much fat in the buttermilk. W. R. GILBERT.

One of Fido's Troubles

A READER in New Mexico asks what is ailing bis dog, which has a strangling in its throat and can hardly swallow. Ticks have been taken from this dog's ears at times, our correspondent says in his description of the case. There is a strong probability tbat this trouble is caused by wood-ticks which in some way have gained lodgment in the dog's throat or well back in its mouth. In such cases place an oblong ring in the dog's moutb to hold it open, and examine the throat in a good light. If any ticks are seen, go after them with tweezers. In the case of wood-ticks, tbe head will remain, but will soon come away. This treatment will often, though not always, suffice. C. D. SMEAD.

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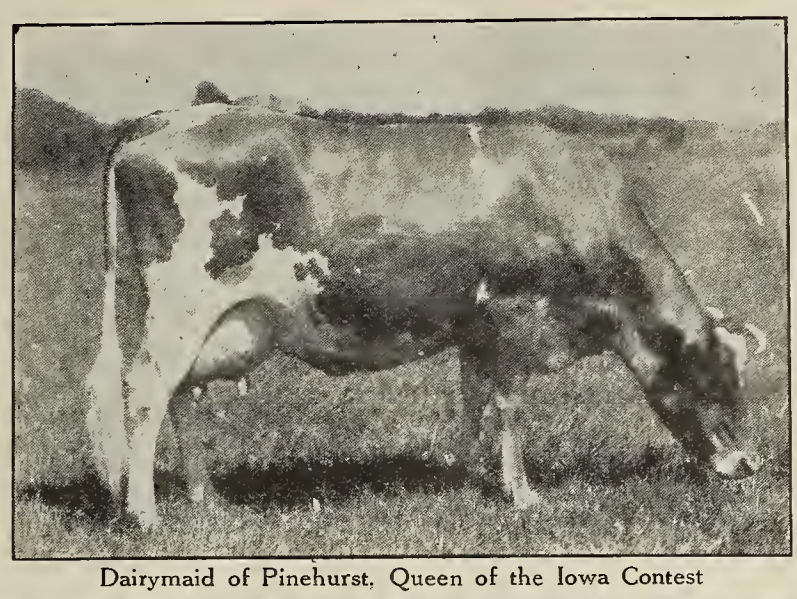
Better Cows, Better Farming—By H. E. Colby

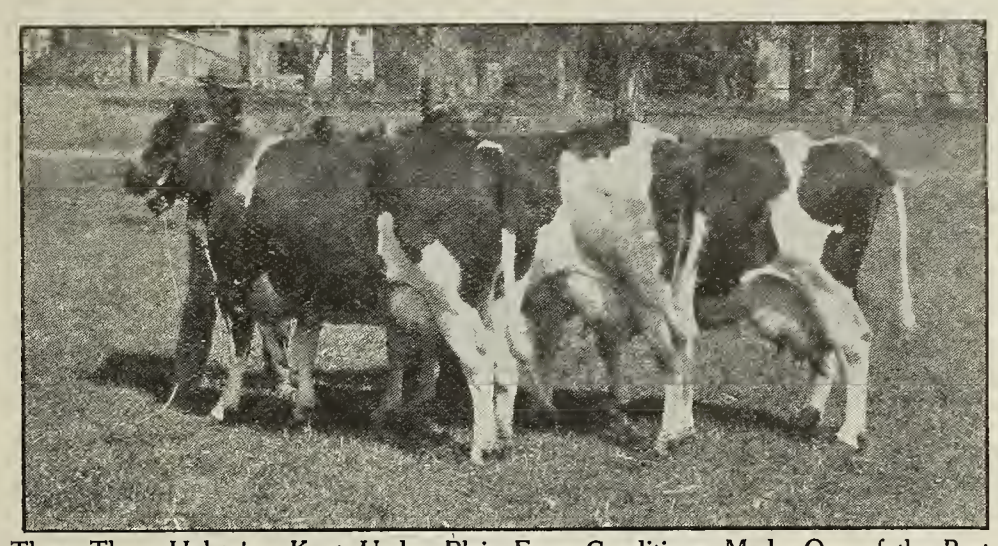
THERE is a whole gatling battery of practical lessons in every one of the state dairy-cow contests, now becoming so popular in the Middle West. The individual dairyman derives new ideas, not to mention inspiration, from the successes of the winning contestants. The state or the community where cow-testing contests are as yet untried can well take notice of the lasting social advantages growing out of these good-natured competitions, in which the prizes are awarded on a utility basis.

The Iowa dairy contest which closed last fall furnished a method of awakening Iowa farmers to the latest and best developments in the dairy business. The Illinois contest will do the same for farmers there. There has been a real "uplift" in dairying in every other state where contests have been held. The men who inaugurate contests of this kind are great benefactors to society, for they do that which excites an interest in the highest type of agriculture.

W. W. Marsh, of Waterloo, was sponsor for the Iowa Dairy Cow Contest. He offered $1,000 to be divided between the cows making the best record during the year. The only stipulation was that these animals should be owned by Iowa farmers. One hundred and seven cows finished the test; the highest received credit for 1,066 pounds of butter-fat; the lowest one for 186 pounds. Thirty cows made better than five hundred pounds of fat during the year.



Dairymaid of Pinehurst, Queen of the Iowa Contest



These Three Holsteins, Kept Under Plain Farm Conditions, Made One of the Best Combined Records in the Contest

In computing her rank, the age of each cow at the time of entering the contest was used as a basis upon which to establish certain percentages and handicaps. Under ordinary circumstances it goes without saying that the aged cow will produce more butter-fat than a heifer, so if a heifer actually makes five hundred pounds, she is entitled to a little bit more than that much credit when she is competing with an aged cow. Thus, there was a difference between the butter-fat production and the total credits with some of the entries.

Some cows were not in the contest for the entire year, yet their totals do not take this into consideration. The number of days in which they were in the test was accounted for, but the credit passes as a year's work. For instance, the Jersey standing highest for the breed was Eurybia's Victoria. Her place in the list was ninth, yet she made 564 pounds of fat in 319 days, not having freshened at the time of entering the test. The cow standing fifth made a record of 546 pounds of fat with a total credit of 606 pounds in 325 days, while the cow standing fourth made 622 pounds in 365 days. Thus, it will be seen that the age of the cow, the number of days in milk, as well as the milk and butter-fat records, must be taken into account in estimating the test.

What the Records Teach

The cow that won first place was Dairymaid of Pinehurst, a Guernsey owned by W. W. Marsh of Waterloo. She made, during the year that she was in this particular test, over 852 pounds of butter-fat, with a total credit of over 1,066 pounds. She actually made considerably over 860 pounds of butter-fat in the official Guernsey test, but the period was different from the months in which she was in the Iowa contest, thus her record of 852 pounds stands in this connection.

One of the most phenomenal records of the whole test was made by Molly W., the cow taking third place. Her record shows 8,252 pounds of milk and 466 pounds of butter-fat, with a total credit of 638. She is a grade Jersey, kept upon an ordinary farm under ordinary conditions. Her phenomenal showing brought out one of the most valuable lessons of the contest—namely, the importance of a pure-bred sire with an ordinary herd. There are over the state of Iowa thousands and thousands of milking herds of cows made up largely of Shorthorns, Red Polls and some Herefords and the other avowed beef breeds. These are kept for the calves which they will bear. The milk they yield is a secondary matter, but it is nevertheless taken into consideration in balancing up the year's work. If all the farmers of Iowa could be convinced of the importance of pure-bred sires—if they could be shown by the report of this test how much more money they could make when the first crop of calves came to milking age, the campaign would have been of great value to the state.

The cow taking fourth place is Glencoes Bopeep, owned by W. W. Marsh. Her record shows 622 pounds of butter-fat actually produced during the year. She was a little over five years of age at the time of entering the test and was in for 365 days. Aside from being a remarkable milker, she is a typical Guernsey show cow, having won premiums at the majority of the shows in which she was entered to appear this year.

The cow taking sixth place is another illustration of what can be done with grade stock. She is a Jersey-Guernsey cross and was kept as a family cow in a small Iowa town. Her feed consisted mainly of those products that are available under like circumstances. There was no alfalfa, no silage and no roots. Even the hay was not as good as the average farmer can provide. Yet with all these things to work against Jersey V. won out over some of the cows having greater advantages and possibly better care.

The group picture shows three cows owned by C. A. Nelson, of Waverly. They are Minnehaha Gerben DeKol, Laura Netherland Gerben and Jewel Abbekerk Gerben, all registered Holsteins of remarkable constitution and capacity. Mr. Nelson is an ordinary farmer—that is, he is a man who works his own land and looks after most of the work himself. His three cows were milked, fed and cared for in an ordinary farm barn by Mr. Nelson himself. This speaks very highly of the owner as a dairyman and the cattle as individuals having great capacity for producing profitably. The three cows made the highest butter-fat yield of any three in a single herd in the test, with the exception of the Guernseys entered by Mr. Marsh's Iowa Dairy Farm. Their total for the year amounts to 1,707 pounds of fat and 50,838 pounds of milk.

The cow giving the highest yield of milk was a Holstein owned in Iowa, whose record is 19,384 pounds of milk in 365 days. Mr. Nelson's best cow gave 18,243. Milk from these three cows was sold, as much of the milk in Iowa is sold, to a condensary for approximately $890. Mr. Marsh sold the product of his three cows at retail in Waterloo for $2,000.

This dairy-cow contest has been of remarkable value to Iowa aside from the lessons that the farmer who reads may take to himself. It has been the means of creating a greater interest outside of the borders of the state in dairying. Further than this,

[CONCLUDED ON PAGE 12]

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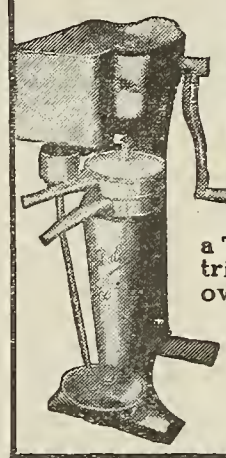

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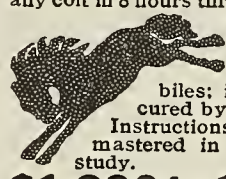

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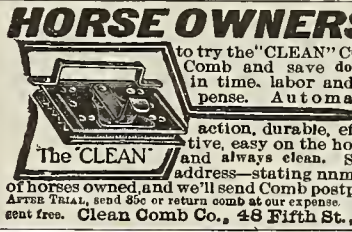

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Live Stock and Dairy

The Making of a Milker

WHAT is the right system of feeding for the heifer, having in view her future usefulness in the dairy, and when is it best for her to freshen first? These questions are the gist of a query from a Massachusetts subscriber, who has a fine fourteen-months-old Jersey.

It is very necessary that the dairy cow have a large, strong and well-distended digestive apparatus. For the purpose of developing this portion of her, give the heifer free access to roughage of a palatable nature, such as corn-silage and clover, alfalfa or oat hay. Clover, alfalfa or oat hay are specified in preference to timothy-hay, corn-stover or straw, because they contain a much larger percentage of protein, which nutrient is useful in growing bone and muscle, and for this reason by their use greater growth of the cow will be secured. Small potatoes, mangels and carrots are very useful for winter feeding, in that they are succulent and keep the digestive apparatus in excellent condition.

Glencoes Bopeep, Successful in Show-Ring and at the Pail. (See page 11)

It is not advisable to feed her heavily of concentrated grains until after she freshens. Four pounds a day of a mixture of equal parts ground corn, ground oats, bran and oil-meal will keep her in excellent condition and growing rapidly, when fed in conjunction with the roughage.

There is a difference of opinion as to when heifers should freshen, but if fed well during their early life, they are large and strong at the age of twenty-four months, and should freshen then, in order that they may early in life attain the habit of converting a large portion of their food into milk and butter-fat rather than into beef and body fat. If, on the other hand, the cow is small for her age, breed considered, it is oftentimes better to allow her to develop further and freshen at the age of thirty months. HUGH G. VAN PELT.

The "Blind Tush" Tradition

A VIRGINIA subscriber recalled a rather common tradition in a recent letter. "Please tell me," she wrote, "if it is necessary to remove so-called 'blind tushes' in horses to prevent their going blind. We have a fine mare that has some swelling of the eyelids and around the eye, and neighbors tell us to have those teeth knocked out or drawn. We think she hurts her eye some other way, for we bathe it in warm water and it gets all right."

There is no connection between the so-called "blind tushes" or "wolf teeth" and eye trouble, which often occurs when a horse is feverish from cutting or shedding teeth, whether these particular teeth are present or not, or which may arise from a great variety of causes not at all connected with the teeth.

I think, however, that it is just as well to have these "wolf teeth" extracted. They are useless and not ordinarily found in horses' mouths. But be sure and do not extract any teeth that belong where they are. And don't have the job done by any unskilled person who will inflict needless pain, but by some one who knows how. It is better to have the teeth pulled than broken off.

DAVID BUFFUM.

Hog-Driving Made Easy

EVERY once in a while I see men having an awful time trying to get a single hog or a bunch of them through or over something. As a rule they go at it in exactly the wrong way. You cannot rush a hog, and as soon as you try it you will get in a mess. A twelve-foot board is the best thing to use, not to hit him, but to get behind him. If there are two of you, one should take hold of each end of the board, keeping it about even with his nose. If he starts to go under, lower it, and if he starts to go over, raise it, all the time pushing him toward the point which you wish him to go. A bunch can be handled the same way. C. A. WAUGH.

Better Cows, Better Farming

[CONTINUED FROM PAGE 11]

it has attracted the attention of buyers to Iowa as a center for the purchase of pure-bred dairy stock, and in this alone the results will not be felt in their entirety for some years to come.

Dairying is the best kind of farming. It saves the soil. It develops better citizens. Therefore, anything that gives dairying a healthy boost, that excites its healthy growth, is of value to a state or a community, in a social way. This contest cannot fail to have an influence of this kind that will be felt as the younger generation now upon the farm begins to take charge of affairs. Contests of this kind leave all the competitors on a higher level at the finish than at the start. Having been keyed up to do their best, they set themselves a permanently higher standard in their work. Even the losers are gainers, in a way. Undoubtedly many of the men who were so fortunate as to capture prizes in this contest will not be any more benefited than will those who won nothing save the experience that came from the instruction given by the tester from week to week.

The following are the records of the first five cows in the Iowa test, arranged in order of their standing. The name of cow is given first, then her breed, owner, and record.

Dairy Maid of Pinehurst, Guernsey, Marsh—Age, 3-0-25; days on test, 365; milk (lbs.), 14,571.4; butter-fat, 852.89; total, 1066.11.

Jedetta of Pinehurst, Guernsey, Marsh—Age, 5-4-23; days, 365; milk, 15,199.1; butter-fat, 774.28; total, 774.28.

Mollie W., Guernsey-Jersey, Kirby—Age, 2-3-4; days, 352; milk, 8,252.4; butter-fat, 466.21; total, 638.71.

Glencoes Bopeep, Guernsey, Marsh—Age, 5-4-14; days, 365; milk, 13,116.7; butter-fat, 622.56; total, 622.56.

Minnehaha Gerben DeKol, Holstein, Nelson—Age, 3-11-1; days, 325; milk, 16,035.4; butter-fat, 546.15; total, 606.23.

* * *

Take a good, close look around the premises some of these bitter cold mornings and see if you didn't start through the winter with more stock than you can handle in a profitable and humane manner; if you did—never be guilty of that act again!

A Message To Dairymen

Important

Right Now owing to the unusually favorable market conditions, especially in prices on all high protein concentrates, wide-awake dairymen can ***save $5 to $8 per ton on feed bills*** by adopting the following feeding plan, which leading dairymen say is the greatest saving method experienced in years.

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In Addition they find it produces a big increase in milk, and a decided improvement in the "condition" of their cows—a feature so important at the beginning of the long winter milking period. "Condition" means money to the owner when milk prices are the highest.

Here is the Plan

You, no doubt, are feeding high protein concentrates such as gluten, cotton seed meal, malt sprouts, etc. If you will combine SCHUMACHER FEED with any of these to the amount of half to two-thirds the ration, you will save $5.00 to $8.00 per ton on your feed and get better results in both milk and "condition" of your cows.

Here is the Proof

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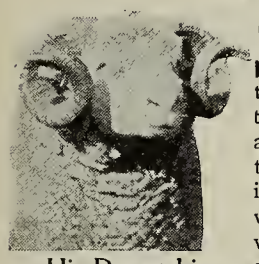

His Dorsetship

Some difficulty is said to be found in inducing ewes to breed as early as the middle of June, and I have been asked to state my experience in the matter. Individual cases certainly will occur in almost every flock of ewes, which refuse to breed at any time of the year, but I have never known this unwillingness to extend to any serious number of its members and have always been able to meet it by substituting other ewes for these refractory ones.

It is frequently a matter of weather or of unsuitable local conditions. A cold wet spring is certain to retard the tendency of the ewes to mate, and can only be met by providing warm shelter and increasing the allowance of grain and hay. Locating them on damp, low and marshy ground tends also greatly to retard the breeding-time; but want of proper condition is far more injurious than either of these. If a ewe is allowed to become really fat, she will show a great indifference as to mating, and her progeny, if any, is likely to be wanting in stamina; and the same may be predicated of one that is poor and thin. Feeding corn has much to do with the former mishap, for corn is a great fat-maker. Lack of food or shelter, or some diseased condition will be responsible for the latter. In neither case is the ewe fit for breeding early lambs. She must be full and high in flesh, but not fat, and certainly not poor. I would not give these ewes either corn or alfalfa in any form.

Variation in Rams

Trouble may arise, also, from ewes not having been properly dried out after former lambing. This is difficult to manage at first starting an early-lamb flock, when the past history of the purchased ewes is unknown; but in a season or two there should be enough home-bred ewes from eighteen to twenty months old that may be substituted for these rejected ones. It is, however, not always the fault of the ewes that the breeding is delayed. Rams vary greatly in their capacity for service. I once had a big Lincoln ram that served eight ewes within twenty-four hours, producing in due season eleven healthy lambs. Again I have had rams as well bred and in as good apparent condition which could not be bred to more than four ewes a day.

Personally, I have generally had good success with Lincoln rams on Shropshire ewes mated in June. For the production of top-price meat there used to be a prejudice against Dorsets, partly on account of their horns and partly because, for the early-spring lamb trade, their meat was supposed to tend to coarseness. But that was in England, and I don't think the breed had at that time had as wide or as fair a trial as they have since obtained here.

In this country then (to sum up my ideas on the subject) I would say that in order to catch the spring markets in sections where warm and even hot weather may be expected even in May it would be advisable to use a Dorset or Lincoln ram on Shropshire ewes. Where the seasons are later and more uncertain it would perhaps be best to have Dorsets on both sides, but in that case I should hardly expect to catch the very top prices. In any case lambs dropped even late in December, if properly cared for and forced along, should by the fifteenth to the twentieth of April weigh at least from forty to fifty pounds and be quite as fat as is desirable; and these lambs frequently are the ones which command the fancy prices. Anyway, there is always a demand for such lambs any time during the summer, though not quite at Easter prices.

Jno. Pickering Ross.

What Sweeny Is and Is Not

The question of sweeny and the other ills the horse's shoulders are heir to, is raised by an interesting letter from a young lady in Kansas, whose parents take Farm and Fireside. "Just what is sweeny?" is a question often asked. It is a wasting away or atrophy of some of the shoulder muscles, following some injury—usually a muscular sprain such as horses may get on rough ground, or in making an unexpected step into a hole. Usually there is tenderness and swelling at the injured spot, and though there may not be much lameness, a difference in the horse's gait can be recognized. Professor Law says: "Standing directly in front of him the affected shoulder is seen to roll outward from the body to a far greater extent than the sound one." The muscle outside the shoulder-blade soon begins to waste away until, in bad cases, it can hardly be felt.

Sweeny is not a growing fast of the muscle to the skin, but a wasting of muscle. The word sweeny is loosely used, even by some veterinarians, to denote any wasting of the shoulder muscles. This can occur in cases where there is serious lameness in the leg so that the horse does not exercise it, without the shoulder being injured in the least. In such cases, of course, the treatment ought to be applied to the point of the real difficulty. Where the trouble is really with the shoulder muscle, a cure can be effected, with perseverance, if the case is not one of long standing. Old cases, however, can seldom be completely cured. The treatment is to work the animal very lightly and to use stimulating applications on the wasted muscle. It is a job a good veterinarian should attend to, if one can be secured.

A Treatment for Boils

In the case described in the aforementioned inquiry, a brood mare went lame, though without any blow or strain having been noticed, and sweeny was suspected. Later, a lump developed on the inner front side of the leg just below the body, which afterward discharged, the whole leg swelling. The lump was twice lanced.

Mr. David Buffum prepared for the inquirer the following advice:

Unless you know of some injury having been sustained, I should suppose the whole trouble to be due to a large boil or rather abscess. As in the human race, such swellings can rarely be fully accounted for. Sometimes a run-down condition will contribute. The immediate cause often seems to be a lack of lime in the system. A half-dozen eggs, shell and all, mixed each day with her feed, might be good for this mare. Or save the egg-shells from the house, half a dozen a day, and mix with her feed. This will not stop the present abscess, but may prevent another. Do not press the part affected so hard as to bruise it and wash it two or three times a day with warm water into which a little dioxogen or diluted carbolic acid has been put. If the mare has had a colt every year, it will be wise to omit this a year so as to allow her condition to build up.

I cannot guarantee this cure, but have often found it the best treatment, and in human beings I have several times stopped a succession of boils by giving egg-shells when other remedies failed. It depends, of course, on whether lime is needed, but will do no harm, anyway. Be sure also to have salt always by her.

Our correspondent has been advised, as a treatment for sweeny, to put a "seton" (thread) or horse-hair under the skin of the animal's shoulder. She had very sensibly refused. Such treatment is barbarous and besides does no good, in sweeny or any other disease. I never knew an intelligent veterinarian to prescribe it and I should refuse to apply if he did.

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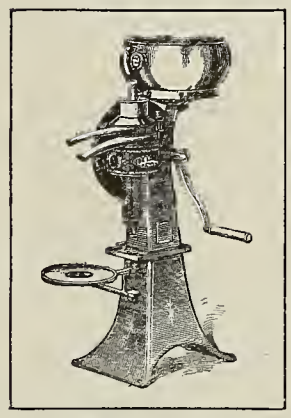

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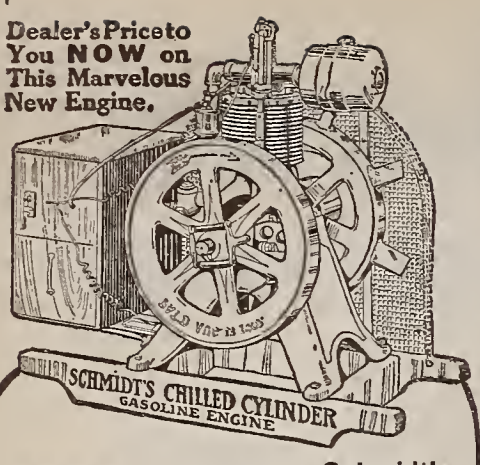

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Farm Notes

The Plodder and the Planner

I HAVE in mind a couple of farmers I used to know very well. One of them was about the most industrious man I ever saw. It was simply astonishing the way that man would work. He was generally up at four o'clock in the morning and he worked as long as he could see how, in the evening, and sometimes continued by lantern-light.

He seemed to be a regular pack-horse, but never got ahead because he hadn't the right kind of brains. For example, he insisted on making his horses work as hard winter and summer as he did, and as a result in a short time his teams would play out and lie down and die. Rough treatment, of course. He lost enough in horses every winter that were doubly worked and half fed and cared for to have left a reasonable profit on the farm every year.

He usually kept a good many hogs, but they were a poor lot and impossible to fatten. The corn those hogs ate was wasted. His cattle, like his hogs, were of the scrub variety, and after he had fed one of them for three years it was still a runt and sold in the market as a cull which brought from two dollars to three dollars less per hundredweight than the first-class cattle that went onto the same market.

This industrious man was no reader. He worked so hard that he was too tired to read at night, and he worked so many hours that he had no time to read during the day.

As a result, he never adopted any improved methods of farming. He never seemed to realize that there was any difference between good and bad seed. Corn was corn, wheat was wheat, and oats were oats with him. He was just as likely to plant seed from a nubbin as from a good ear of corn and to sow wheat that was only half developed and of an inferior breed as good wheat. His work was done in the hardest possible way.

This man was always hard up. He always got the poorest prices for what he raised, and his crops were always small in spite of all the work he did. He simply wore himself out with hard work, and although he always lived hard, he never managed to get ahead, simply because he did not mix brains with his energy.

Near him lived another man of different type. He was never what was called a hard worker. He was never out of the bed before daylight, and unless there was something exceedingly pressing he and his men quit work winter and summer a little while before night, but somehow everything he did counted.

He planted only the best grains he could get hold of and made a study of his soil and what crops were best adapted to each of his fields.

He dressed well, lived well and educated his children, and still somehow or other he managed to accumulate a great deal more money than the man just across the road who worked sixteen hours each day and never seemed to spend a cent that wasn't absolutely necessary to keep him and his family alive.

The difference between the two men must have been simply a difference of ways of thinking. The one made of himself a workmule, a burden-bearer, and nothing more; the other was a general who planned his work and made his plans count. The man that used his brains knew that it was just as easy to raise a horse that would sell for two hundred dollars when it was three years old as to raise a plug that would only sell for seventy-five dollars or perhaps less, and was hard to sell even at that price. He insisted that it was much better to grow eighty bushels of corn on one acre than to grow forty bushels to the acre on two acres, and that there was no economy in just growing ten bushels of wheat to the acre when the same ground might under the proper treatment be made to yield thirty. Don't you think this latter man's ideas were better?

R. B. RUSHING.

The Secret of the "Pack"

[CONTINUED FROM PAGE 9]

Two apples are then placed in the spaces which are left. Figure 4 shows this point very nicely. We have, in this pack, three and a half rows in width and four layers in depth.

To start the four-and-a-half-tier pack, the first apple is placed in the lower left-hand corner of the box, another in the lower right-hand corner and another in the center (see Figure 2). Two apples are then placed firmly in the spaces that are left vacant. This pack has four and a half rows in width and five layers in depth.

How to obtain the proper bulge—Inexperienced packers will have some little difficulty in getting the proper bulge to the box. Practice, however, will obviate this. When the fruit is packed, the apples at both ends should come up flush with the top. In the center they should extend a little higher. There is more or less of a graduation between one sized apple and another, as, for instance, between the three and three and a half tier apples. To obtain the proper bulge, the packer selects apples that are a trifle smaller for the ends, working those that are a trifle larger to the center. In case the apples are of the same size, and are being packed on the cheek, in order to obtain the proper bulge, the end apples are turned with the stem ends up. Every box should have from an inch to an inch and a half swell.

Lithographs—On the end of every box a neat, attractive lithograph should be placed. This adds very much to the appearance of the box and aids materially in selling the fruit. A cheap gaudy label detracts from, rather than adds to, the appearance.

A lithograph should contain the grower's name, the name of the locality and the name of the state. The name of the state should stand out in bold relief, as it aids wonderfully in bringing before the people the possibilities of such a section for the production of fruit.

On the other end of the box should be stamped the number of apples, the packer's number and the variety. This facilitates matters considerably, for the consumer knows the exact number of apples.

A few general considerations:

1. Handle the apples as little as possible.
2. Cleanliness should be observed in every part of the work.
3. Decayed fruit should be disposed of so as not to contaminate the premises.
4. Don't toss the apples about on the packing-table every time you select one.

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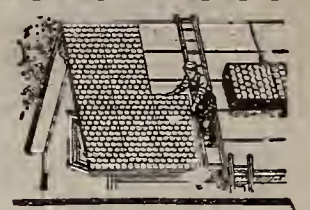

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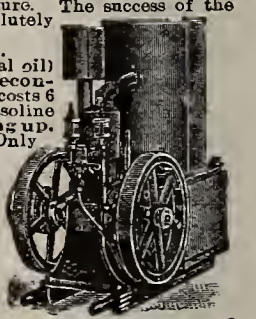

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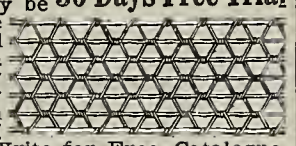

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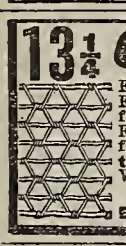

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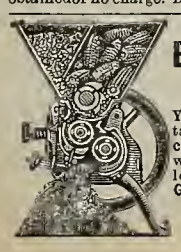

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Poultry-Raising

Breeding Line Upon Line

HEALTHY, vigorous stock is the foundation of success, for the beginner or the experienced poultryman.

The first law of breeding is: "Like will produce like." If we have our breeding-yards filled with birds that are sickly, weak layers or have bad defects of conformation, we may expect nothing but disappointment.

For utility or fancy points, I prefer line breeding, after a careful selection of the original male and female.

Suppose we purchase, from some reliable breeder, a cockerel and a pullet, both from the same mating, in good, healthy condition and as near to the standard of perfection for the breed as can be obtained. This pair is the foundation of our future success. Call the cockerel M and the pullet N. The product of this mating will probably not give us anything exceptionally good in standard markings. Probably there will be no young birds superior to the parent stock, and a large number of the progeny will have to be discarded. At the close of the breeding season we separate the original pair, M and N. The pullets that we wish to reserve from this mating for the coming year we call group No. 2.

We have used our best judgment in selecting the very choicest pullets. We also reserve the choicest cockerel. Call him cockerel No. 2.

The Second Year

The next year we will mate the male M to the pullets of group No. 2. Cockerel No. 2 is mated to the female N. This gives us two breeding pens for the second year, which pens we term Y and Z.

The progeny of the pen Y will be three fourths the blood of the original sire and one fourth the blood of the original dam.

The progeny of the pen Z will be three fourths the blood of the original dam and one fourth the blood of the original sire.

In selecting our stock for the third year we are again very careful to reserve the very best specimens. In mating pens for that year we will use a typical cockerel from the progeny of the pen Y and a pullet of the progeny of the pen Z. This mating gives us stock one half the blood of the original sire and one half the blood of the original dam.

The same year we mate a pullet of the production of the pen Z to the original sire M, which gives progeny having one eighth the blood of the original dam N, and seven eighths the blood of the original sire M.

We also mate a cockerel of the production of the pen Y to the original dam N, giving us progeny having seven eighths the blood of the original dam N and one eighth the blood of the original sire M.

Here we have been changing types without inbreeding. At every step great care must be taken to select the best specimens.

This system I have followed for a number of years and find it is the only road to success for the utility man or the fancier.

RYON ISBELL.

Gosling-Culture

GEESE demand early mating. Every breeder should have his pens mated up in January. In mating gecse many odd peculiarities will be observed by those who take time to study their ways. In certain cases where a goose has been placed with a new mate, she has seemed to worry and treat her new mate with utter disdain, until I have had to return her to the old one.

If you have a goose that is shunned by all and driven to one side, pen her and a single gander away from the rest. She will not mate unless so penned. Otherwise, as a general rule, mate two or three females to one male. If the gander is old, two are plenty.

Geese are among the most profitable of all fowls to invest in, for they can be kept several years for breeding purposes, and, when your foundation is once laid, there is little expense. Make good warm nests for your birds; boxes are preferred to barrels, as ordinary barrels are often too small. If you have no place to put your nests under shelter on the ground, dig up pieces of sod and insert in the box, hollowing it out nicely in the center so that, after the straw is placed on top (very thick for cold weather), they cannot shove the nesting-material from under them, and if they do, the sod will protect the eggs from the cold.

Early Nurture

Set common hens on goose eggs at the same time you do your goose, and then let the mother goose care for all the youngsters, being careful to give them a warm, dry place at night. She will always bring them home at night without driving, if given liberty. Be sure and keep your young goslings free from lice; if you do not, they will grow thinner and thinner until they die. Give fresh water, oyster-shells, charcoal and grit in abundance. Do not give them a bathing-place until they are feathered out.

I have found that a feed of two parts (by weight) of corn meal, four parts of wheat bran and one part of bone or meat meal is excellent for young goslings. This is mixed with sour milk to a crumbly mass, and a teaspoonful of soda and a teaspoonful of salt added to every pailful. This feed is given three times a day—morning, noon, and night—as much as the goslings will eat up clean. Be careful and do not dampen too freely. Therein lies the secret of making a good mash. When the goslings are two or three weeks old I begin giving once a day, in place of the mash, a mixture of whole grain consisting of equal parts of corn, wheat, buckwheat, kafir and barley.

Bran is quite indispensable as a bone-forming element; but grass is the main food of geese. If they meet you with their musical(?) clatter, take a few mouthfuls of food, then lazily saunter away, you need not think them ill. They are bent upon "turning grass into greenbacks." A. E. V.

Tabloid Poultry Wisdom

The freshest eggs are those laid for the first time by the very youngest pullets.

You cannot expect success in the poultry line and have a dozen mixed breeds. Select the kind you want, and don't mix.

Earthen water-fountains in the poultry-yard are better than tin ones. The former will keep the water cooler in summer and warmer in winter.

No use to sputter about it and call folks fools because they insist on having white eggs. Just get yourself into a position to cater to the taste and let it go at that.

Dust which is used for poultry should not be left too long in the houses. It gets old and perhaps infested with insects, so that it will defeat the purpose for which it is placed in the boxes.

One good way to keep insect pests down is to give the birds all the dust they need to roll in. Just try that and see how they will "second your motion" by rolling every day and many times a day.

A combination of high roosts and heavy fowls seldom proves satisfactory. Lame birds will surely result. Wide perches, not over two feet from the floor, are the best for the heavy breeds.

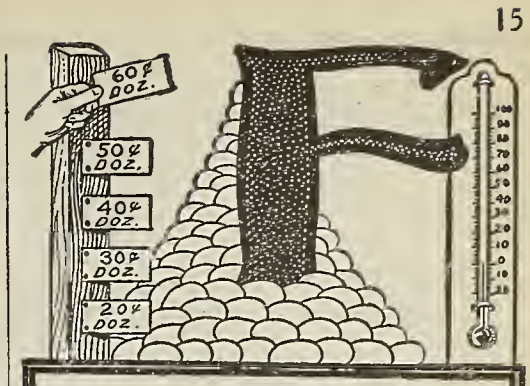
Don't tie up the top of the grit-sack, just because the hens are out on the ground. They can not get much grit themselves, and what they do get is not sharp enough to do the necessary grinding.

A flat stone and a hammer are all the tools necessary to manufacture grit from the pieces of broken crockery and dishes which accumulate more or less around every home. The pieces can be pounded fine for chick grit, or coarse for the older birds.

Order pure-bred roosters early, to head your flock. It needs new blood this spring. And don't expect to get good birds under a couple of dollars! They cost, but to grow vigorous, healthy chicks you must have one to every twelve of the hens whose eggs you will save for hatching.

An Ohio subscriber is troubled by her hens having the habit of plucking out and eating each other's feathers. Probably they have been idle too much and have not had enough animal food. If only a few do it, kill them or segregate them. If they are numerous, trim the edges of both the upper and lower parts of their bills, by rounding off the sharp edges of the beak and snipping off the hook at the end. Give them a variety of food, including animal food, make them scratch and take exercise, and by the time the beaks are grown sharp again they will probably have forgotten the habit.

E. A., Indiana, is trying to figure out the relative cost of keeping Indian Runner ducks and chickens with a view to more intelligent choice of varieties to keep. Accurate experimental data on cost of maintenance of chickens and ducks seem to be wanting, but to produce an equal growth in weight of each will probably require practically the same food cost. The ducks will make more rapid growth by reason of greater power of digestion and assimilation, but more food will be consumed in a shorter period. The point to be ascertained is the required maintenance ration for adult birds when kept under conditions best adapted to maintaining the health, vigor and productiveness of each.



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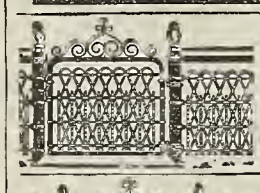

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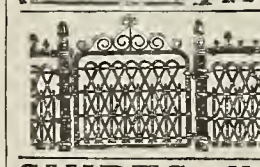

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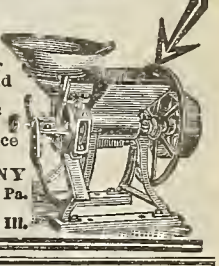

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GEM INCUBATOR CO., Box 35 Trotwood, O.

Poultry-Raising

Building Up Better Stock

How shall we do it? Two or three ways may be set down for men and women of varying circumstances.

Perhaps the cheapest plan is to take a dozen or two of your own eggs and go to the yards of some neighbor who has a little better stock than you have and ask him if he will exchange with you. I have made some good exchanges of that kind, but, of course, you need to go to a man who is willing to be neighborly.

Where you cannot make this dicker, the next best thing is to buy some eggs. The money may go hard, for it has come hard, by work on the farm, but pay it out freely, thinking away on ahead to the better poultry you are going to have. Get the birds up through to maturity and then quietly enjoy yourself.

Still another way is to buy a few good hens and a choice rooster. There are those who make a business of selling stock this way. You cannot tell what you will get. It seems sometimes as if anything that cackles sells for a good hen, while the crow makes a rooster all right. But we want results. It may not be that we shall ever get with hens as we are with cows, so that we will demand a verified statement of what the birds we buy have done or what their ancestors have been about, but we are entitled to be assured that we are getting good laying stock.

There are some men who will exchange a good rooster with you for one that is about the same in weight, especially if they are overstocked. You can afford, if need be, to pay a little something to boot for the sake of getting the better stock. Just to get one such rooster into a flock will often be the means of creating a new condition of things in the egg record.

Somehow, let's make up our minds that we will get the very best stock possible. Putting money into stock that will make the flocks better is like investing in advertising. It costs, but it brings returns.

Neglect will spoil the best breed of hens in the world. I have in mind a flock that has taken some good premiums in the past, but which is now sadly run down, just because the man in charge of the farm has a horse that he thinks more of than he does of the hens. If it is worth spending time and money to build up a flock, it is certainly worth while to keep the birds up afterward.

E. L. Vincent.

Back-to-Nature Treatment

The question of fertile eggs is not settled altogether by the mating of the flock. It frequently happens that the male and females may be fully matured and hardy birds, and the pens properly proportioned as to sexes, and yet the eggs may prove infertile to a disappointing extent. In cases of this kind I would look to the food as the cause of these unsatisfactory results. A flock may be given enough food, but if it is lacking in the elements which would be available to the hen in the natural state at that season of the year it is quite likely to affect the hatching qualities of the eggs laid.

There is not much trouble about getting fertile eggs after the hens get out on free range. The hens then get no more to eat than when they were confined in yards, but they get natural exercise and more or less green food, insects and so on, which they do not get if confined. As a rule, in the North, hens do not get outside the houses very much until along in April or May, but eggs are saved for hatching in February, March and early April.

If we would have fertile eggs in those months, and those that will bring out good strong chicks, we must use every effort to get the flock in prime condition, not later than February 15th. Feed liberally of good sound grain with a little green food daily. Finely cut clover or alfalfa is about the best thing we have in this line. Give some lean meat and bone and keep the whole flock active as far as possible by making them scratch part of their ration out of the straw.

Examine the old birds and see if they have not become over-fat during the winter. If so, pen them up by themselves and cut their rations down. Give all their food in such a way that they will be compelled to work to get it. After two or three weeks they will be in better condition for producing fertile eggs that will hatch out strong chicks.

V. M. Couch.

Ventilate Without Drafts

A man, to whom I had been talking muslin windows and open-front hen-houses, said to me the other day: "What is the object in double-boarding and lining a hen-house to make it warm, then opening it up with cloth windows to let in the cold?" And I have heard others argue the same matter in a little different way. One said he did not need any open front to his hen-house, for it was open all around now.

That is just the trouble—the houses are open all round, and that allows a draft. And any one that knows anything at all about a hen knows she can't stand a draft. A hen will endure a lot of cold if the air is still and dry. The object in making the building tight is to stop all chances of a draft. Then have the open or muslin windows on one side only, the south or east, and you have a well-ventilated, dry, comfortable hen-house.

V. M. C.

Can anything wholesome, clean or profitable come from a filthy, foul-smelling poultry-house?

If chickens are confined in the hen-house until late in the morning, they are sure to fly off the roost as soon as it is light and scratch around in the filth, thereby laying the foundation for disease

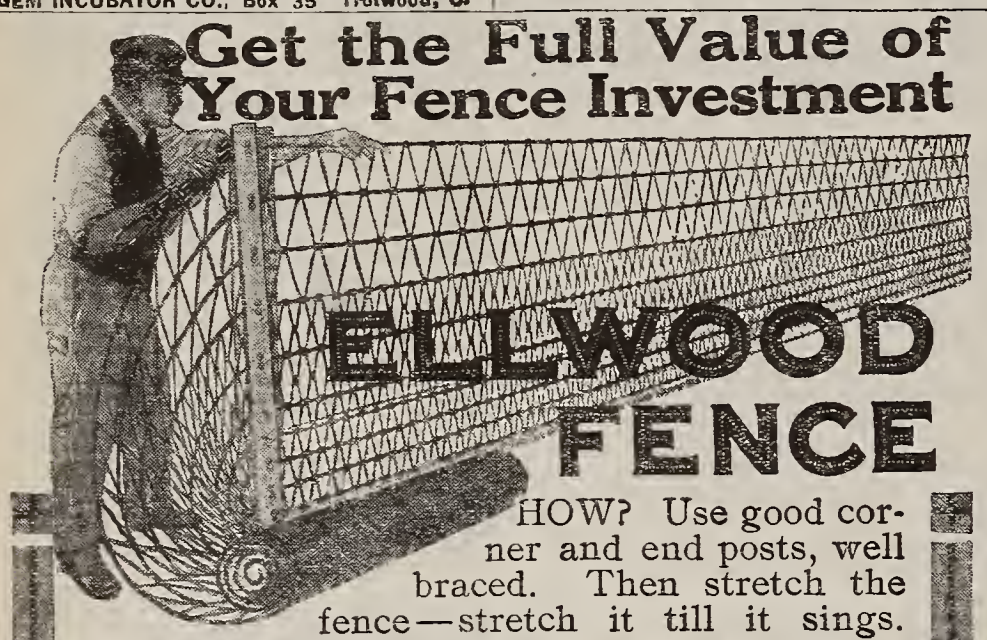
For the man who never has kept poultry, twenty-five hens are enough. More would be a handicap.

Now use some of the dust you saved last summer for the boxes. Didn't get any? You will have trouble from all kinds of insect pests before spring. See if you can't borrow or buy some of a neighbor, and do it right off.

Nothing tickles hens more than to have a nice clean flooring of litter, straw or leaves scattered in the houses. They will dig in that and sing until they are as happy as queens. And the happier they are, the more business they will do in the nest-boxes.

Always remember that this is a big country when reading poultry suggestions, and in trying new methods ask yourself, "How does my own common sense teach me that this would work with me?" This may save you a lot of trouble, for the thing which might do in one part of the country might be a perfect failure elsewhere.

Get the Full Value of Your Fence Investment



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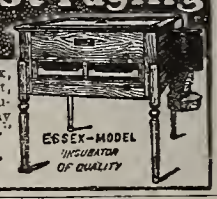

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Wisconsin Incubator Co., Box 88, Racine, Wis.

Practical Farm Notes

Fit the Farming to the Farm

In Fulton County, Pennsylvania, near to the Maryland line, is to be found a prosperous, intelligent and peculiarly interesting farm community. Its experience carries a lesson to many a farmer far better situated, in so far as outside advantages go.

Here is a county without a railroad in it. McConnellsburg, the county seat, is located in a broad valley and all products marketed from within or brought in from without must be transported over the mountains. Mercersburg, the nearest railway station, is ten miles away, about seven miles of this distance being up and down the mountainsides. To add to the difficulty even the highway is not free for public travel, being still maintained by private management, with toll-gates. The mail-carrier's toll charge is four hundred and twenty dollars per year, a little more than half the amount he receives for carrying the mail.

In such a community one might expect primitive farming and primitive people; but this delusion is quickly dispelled. The farmers' institute, which brought the writer there, was held in the large hall of the new school-building, a fine, modern structure, well appointed and up-to-date in every respect. One glance into the faces of the large audience which gathered for the evening sessions showed that they were people of intelligence and character. This meeting, too, immediately followed the teachers' institute, which had occupied the entire previous week, when the people had heard many good things and might well have been excused from coming out to hear farmers talk on familiar problems.

Uphill Work in Two Senses

The soil of the valley is productive, and the fields, fences, buildings and live stock all show thrift and prosperity. The immense, but well-built, stacks of straw attest the large crops of wheat which were harvested the past season. All this wheat must be hauled over the mountains to market. We were told that it took about eleven hours to make the trip, but by putting on four or six horses they were able to haul from eighty to one hundred bushels at a load.

Despite this disadvantage in transportation these people have learned to adapt their farming to their conditions and are far more prosperous than many communities with the best of railway facilities. The stranger gains the impression that they keep and use more horses than they need, but all are sleek and well fed.

The absence of a railroad has its compensations. They are not troubled with undesirable people, and one cannot help thinking that the feeling of security and contentment which seem to prevail may be a greater blessing than any which railroads would bring.

The experience of this community emphasizes the importance of adapting the type of farming to the surroundings. Perhaps no one thing is a more frequent cause of unprofitable farming than the lack of such adaptation. Dairies are maintained on rough, infertile land, much better adapted to sheep, fruit planted on low frosty land and bulky or heavier crops of low value grown at points remote from market.

What Can Your Farm Grow Best?

For the man who is to start in farming anew no more important problem is to be confronted than that of the choice of a farm. In making that choice he should give special attention to its adaptability to the type of farming he wants to carry on. He should first consider the climate, for certain climatic conditions are much more favorable for some things than for others. This is one of the chief reasons why Maine has become so noted for her potatoes, Vermont for her apples, and Iowa for her corn. Minor variations exist, too, which, unfortunately, it is not always easy to learn without personal experience with a given farm.

Soil is of equal importance with climate, and a much more variable factor in a given locality. A soil which is well adapted to fruit may be poorly adapted to grass or potatoes, and one which will give good results with pears or apples may be quite unsuited to peaches. The slope of the land should also be considered, for while steep hillsides and irregular outlines may prove a serious disadvantage in growing cultivated crops, for instance, in fruit-growing they would be of comparatively little moment as is proved by the success of the West Virginia side-hill orcharding.

The character of the available market is of the utmost importance. If one is to grow perishable products requiring quick delivery, it is folly to choose a remote locality in which to grow them.

The highways over which they are to be transported are likewise a matter of importance. One should not attempt to move tender fruits, easily injured by rough handling, over rough roads, nor to handle heavy products over hilly ones.

Still other surrounding conditions may have an important bearing on the outcome of farm operations. The character and availability of help, the danger from trespassers, and the presence or absence of other growers engaged in the same line, are among these. While it sometimes happens that the absence of immediate competition may prove an advantage, especially in a small local business, it more often happens that a greater advantage accrues from having neighbors who are engaged in the same line. Such a community will attract buyers for the particular product—a single breed of live stock, for instance—and will secure better marketing facilities.

Few of us are likely to be in a position to select a farm suited exactly to our tastes. More often we are already anchored where it is not easy to set sail again. The problem then resolves itself into adapting our lines of work to the farm in hand, instead of finding the farm to suit the work. If this involves too much sacrifice of personal taste it may be better to sell the farm and start again on one better suited to our ideals. Success can hardly be expected with a misfit farm.

Fred W. Card.

How to Fight Wild Carrot

The wild carrot, familiarly known as "bird's nest" or "Queen Anne's lace," is found on wild land and along the roads in the eastern half of the United States and Canada. It came here from England. It produces flower-stalks from one to three feet high and has tall slender hollow stems and a finely cut leaf. The flowers are white and the clusters with the stems resemble an umbrella. It has a very strong, suffocating odor when in bloom and this with its nectar attracts scores of insects. It blooms from June to September. The large number of insects which visit it make pollenization almost sure, which partly accounts for the readiness with which it spreads.

The long tap-root is more like a dandelion-root than a carrot, being long, rather slim and tapering, and somewhat branched.

It is a biennial, and the first season it produces rather low vegetative growth. The

At Left, a Two-Year-Old Wild Carrot Plant With Flower Stems. At Right, Single Flower Head

second season it sends up long flower-stems. The seeds are very numerous and if the flower-stems are cut down before seed has been formed, new stems will come up.

This weed is a demon to spread, but not very hard to eradicate. Good cultivation will keep it out of cropped fields, especially where there is a rotation including one or more cultivated crops. In permanent pastures, along roads and in other places not cultivated, it should be cut down with the scythe. This must be done repeatedly to keep the new flower-stems that spring up from carrying their seed to maturity, but persistent cutting will kill the weed out, generally in two years. If the weeds are not too numerous, they can be killed off individually once and for all, by cutting the root underground with a "spud," sharp spade or other handy implement.

Recent tests have indicated that the wild carrot is vulnerable to several weed-killing sprays. One solution that is recommended is sodium arsenite, one pound to twenty-six gallons of water, sprayed on when the plants are dry.

P. E. McClenehan.

Circumventing the Horn-Fly

For the past few years we have tried various methods of keeping the horn-flies off the milch-cows. We first tried fish-oil. This did very well for a short time, but it was necessary to apply the oil at least once a day, as it would harden in that time and it then had no effect upon the fly.

The next application was axle-grease, daubed on around the horns and along the back. This was cheaper than fish-oil and does not have such an unpleasant odor, but it caused the cows to appear fully as dirty as the fish-oil did, and it was necessary to apply it even more often. After the cattle had been out in a rain, neither of the applications did any good whatever.

The next remedy was a few ears of corn fed to the cows at each milking. There is always some whole corn in the dung, when cows are fed in this way, and the chickens soon got into the habit of following the cows day after day digging over the dung and scattering it, so it soon dried and the flies, the eggs of which are laid in manure, did not get the least opportunity to even hatch.

Last summer was the first for many years that we have not had to fight the horn-fly.

H. E. Lemmon.

How About Your Ice-Supply?

More and more farmers each winter are putting up their own ice for the next summer's use. That which a few years ago was looked upon as a luxury is now considered by an increasing number of farm folks as a necessity. It has come to be so that a farmer would about as soon think of getting through the winter without coal as through the summer without ice.

In putting up ice care must be exercised that it is not taken from polluted sources. Much harm is sometimes done by using ice from contaminated water, and the germs of several diseases, contrary to general belief, are not killed by freezing. Ice does not "freeze itself pure."

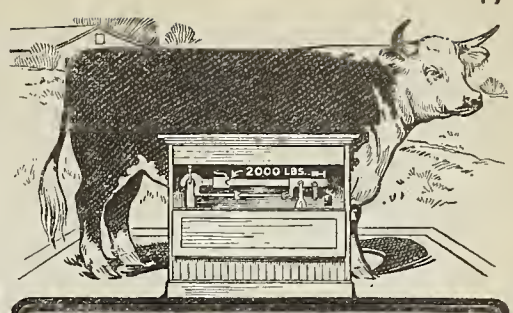
Generally speaking it is better to take ice from a running stream than from a small lake or pond. But the stream should be rather a large one to be safe, and not subject to contamination by sewage from towns or drainage from farms or feed-yards. If care is taken to keep stock and water-fowls from a clean pond for several weeks before the ice is to be taken, it will be a comparatively safe source of supply.

Perhaps the safest way to put up ice is to make it from well-water. This is not a difficult process, nor very expensive, though tedious. You can have a number of forms of convenient size made from sheet-iron. These are filled, and in twenty-four hours the ice will be frozen solid enough to pack, when it may be removed, and the process continued over and over again. The forms should be made with slightly sloping sides, a little smaller at the bottom than at the top, so that they will slip from the ice easily, and also so that they may be conveniently stored one within the other when not in use.

Commercially manufactured ice, being made from distilled water, is, of course, absolutely pure. I think the time will come when the present method of putting up and keeping ice for use will be considered barbarously unsanitary, and only manufactured ice will be used, but until then it behooves us to be as careful as we can to get the purest within reach.

M. G. Rambo.

New evidence of the value of coöperation was brought out at the recent convention of the Federation of Jewish Farmers of America. The Executive Committee reported that the Purchasing Bureau, established by it March, 1910, sold $10,634.53 of goods to farmers. These were mostly fertilizers, some seeds, silos, separators and machinery. The farmers saved about fifteen per cent., and the Purchasing Bureau made about five per cent. or enough to cover the expenses. Besides saving, the farmers received better quality of goods, had an analysis made of fertilizers and received credit on goods.



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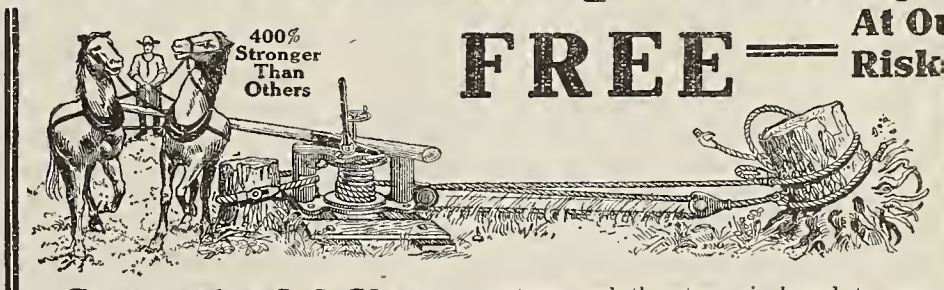

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Farm and Fireside does not print advertisements generally known as "readers" in its editorial or news columns.

Mention Farm and Fireside when you write to our advertisers, and we guarantee you fair and square treatment.

Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

Farm and Fireside is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Letters regarding advertising should be sent to the New York address.

Thirty-Third Anniversary Offer

As a bit of friendliness to Farm and Fireside, and in honor of our thirty-third anniversary, don't you want to introduce us to some of your friends and neighbors? All Farm and Fireside folks have friends and neighbors who would like our paper. We will accept special introductory three-month subscriptions to Farm and Fireside for ten cents each. Your friends will appreciate this neighborly interest, and Farm and Fireside will be grateful for the introduction. This proposition will hold good until February 10th, 1911.

* * *

A stiff neck often goes with a soft head.

It is a poor excuse that is always making one.

If you cannot make things come your way, go where they are.

The wise farmer plans his summer-time work in the midst of zero weather.

The man who goes up in the air when he runs against a difficulty seldom comes down on the other side of it.

Is It Bread or a Stone?

President Taft in his message has adopted the Hitchcock proposal for what is called "rural parcels post." To call such a scheme "parcels post" in the real sense of the word is to abuse language and juggle with words. A system that allows the mails to be used for parcels weighing only up to eleven pounds is not parcels post. A system that allows parcels to be carried on rural lines only is not parcels post. Mr. Hitchcock may call it whatever he pleases, and Mr. Taft may adopt Mr. Hitchcock's name for it; but it is not what the people of this nation have asked for in the past, nor what they will be content with in the future. It is not the bread for which they have hungered, but a stone; not a fish, but a serpent.

This monstrosity called a "rural parcels post" is a gigantic rural postal fraud which amounts to a further postponement of justice to a people to whom it has been long denied. Instead of a real parcels post, we are offered what amounts to a shady deal with the express companies, by which, instead of parcels post, a system is proposed whereby the rural mail-carriers will act as messenger boys for the express companies in the rural regions where the express wagons do not run, but by which the grip of those concerns will not be loosened in the slightest on the parcels transportation of the nation. All parcels carriage from city to city and from town to town will still be in the hands of the express companies.

Such a system as this, falsely called a parcels post, would be of no use to farmers except for the carrying of parcels to and from the place at which the rural route on which he happens to live originates. He would have no choice of markets. He could not even use it in trading with near-by towns on other rural routes. And in many cases he would not be able to reach the nearest good town; for where towns are large, the rural routes as a means of saving distance start from cross-roads post-offices in the suburbs.

For instance, seven routes start from Madison, Wisconsin, and three more, in the trade territory of Madison, originate in Middleton, an insignificant station just out of the city limits. The people on these routes would have to be content with Middleton as a market so far as this so-called "parcels post" is concerned. Jackson, Michigan, is a large trade center; but the rural routes in that vicinity largely start from such hamlets as Parma. The same is true all over the United States—the rural routes do not run between the farms and the centers of trade, except in very small part. They do not run from the farm to the places where the produce is in demand. They do not run to the cities where the competition is located that keeps the middlemen's profits within bounds in the local market and the local store.

How this hybrid thing would work out no one can prophesy. It would certainly be of priceless benefit to the express companies in collecting parcels in the country for them to transport from city to city. It would surely be of some benefit to local merchants who would be given by it a "cinch" on the mail trade out of their respective towns. That it would prove, as Mr. Taft suggests, a stepping-stone to the real parcels post seems unlikely. It would leave the unjustly favored express companies more firmly intrenched than ever. It might even divide the farmers and the consumers in the cities, by bribing some of them with small benefits and conveniences, to give up their fight for justice. It is an anise-seed bag drawn across the trail of the parcels post fox—and some of the shorter-sighted farm papers are already in full cry on the scent of it.

Farm and Fireside is opposed to the so-called "rural parcels post" as a denial of justice and a sneaking compromise with monopoly. We advise the farmers of the nation to fight it as a fraud. We shall get the general parcels post in another Congress or so, if we do not permit ourselves to be bamboozled and befooled by this phantom-minnow bait on the hook of our opponents. Our ancestors refused to take the taxed tea, even when made cheaper for them than for the mother country, because there was a principle at stake. They fought for the principle and won. There is a great principle at stake in this parcels post fight, too; let us fight for it, and we shall win. The enemy is on the run, and they throw over this fake jewel to attract the farmers and prevent pursuit. Let us not be deceived. The thing offered to us who are an-hungered is not bread, but a stone. Take the stone—and then hurl it at those who proffer it!

A THIRD OF A CENTURY

FARM AND FIRESIDE will be thirty-three and a third years old January 25th. We are going to mark the occasion with a big special Anniversary Number.

Prof. W. A. Henry

of Wisconsin, one of the country's greatest authorities on the practice and history of agriculture, will review the progress of American Agriculture in the three generations just past—a transformation that has had few parallels in human history.

Special Features in Every Department

will be the order of this big issue. The fiction department will include a two-page complete short story which no reader should miss.

Our Stanch Friends

who have been subscribers from the infancy of the paper, will be given an honored place in this Anniversary Number.

A Dream of Farm Plutocracy

Most of the papers have become addicted to the vice of drawing us as rolling in wealth. The picture of the humble lawyer or doctor driving in his buggy and taking the dust from the lordly farmer's auto is familiar to us all. It has reached a point where polite people have pointedly refrained from referring to malefactors of great wealth in the presence of farmers. All this has resulted in a new fictional creation—the bloated agriculturist. We have not always felt as rich as we have been painted; but we have assumed that this was because we were not as wealthy as a real farmer should be.

An embarrassing situation is created now, by the increase of farm mortgages in the middle West. The state of Nebraska keeps a record of all mortgages filed and released, according to which the sum total of farm mortgages for 1909 seems to have increased by the sum of $14,866,720. A Nebraska correspondent of the New York *Evening Post* estimates on the basis of these figures that the farmers of Kansas, Nebraska and the Dakotas during last year increased the indebtedness on their farms by the huge sum of $45,000,000. All of which proves that men will borrow pretty well up to their limit, and that when land values increase, mortgages grow with them. But it leaves us in doubt as to the rôle we are expected to play. Are we guilty of swollen-fortunism or pauperism?

Vouched-for Commission Merchants

We think that farmers should ship coöperatively whenever that course is practicable. Wherever they are strongly enough organized, we think they should maintain their own selling agencies, as do the California citrus-fruit producers, as described in Mr. Streeter's article in our issue of December 10th. Many, however, are unable to do these things in these large ways. Many are obliged to paddle their own canoes and find their own ways to market. To such the problem of the commission man is always an important one.

Farm and Fireside has for a long time been considering the needs of such of its readers as must ship to commission men. In carrying out our policy of doing everything for our readers that a farm paper can do, we have worked out a plan by which we feel sure we can help those who desire the names of good commission men, and if the reader will write, telling us the names of the cities and towns most convenient for his shipments, we will undertake to recommend commission firms for him to try.

We cannot guarantee, of course, that our readers will not have trouble with these concerns. We can guarantee no business men but our advertisers—and these commission men will not be advertisers with us. What we will do is this—and we desire everyone to read carefully and bear this in mind. We will investigate the reputation and financial standing of firms in the towns to which you can ship, and tell you those that seem most reliable. These will be the names of people who have been thoroughly looked up, and who are pronounced fair and square men. They will not be men who are in the habit of having trouble with shippers or of rejecting shipments without good cause. This matter of looking up, which would be very troublesome to you, we will do free of charge for all our readers. We think it will prove a very valuable service. It is costing us some expense, but we think it well worth the money. It is a new field of service for the National Farm Paper.

* * *

If you can't do anything but croak, go out and live in the slough with the rest of the bull-frogs.

A productive and well-cared-for vegetable-garden bespeaks good living and a healthy household.

Are the boys and girls ready and competent to take charge of the old farm if necessary? No? That's not the way the city business man trains up his children.

A Step Toward More Eggs

The first North American competition in egg-laying will begin February 1st at Vineland, New Jersey, and continue for a year. Any hen, no matter of what color or breed, is eligible for entry. It is to be hoped that the interest of poultry-growers will be keen enough to make something notable of the contest. For it is perfectly clear that egg-laying is the real test of a hen's value, and that a dung-hill hen which lays two hundred and fifty eggs a year—if such could be found—would be worth more than the bluest of blue-bloods which laid only two hundred. The selection of laying breeds with reference to color or penciling of feathers is a violation of the sound principles of breeding. Away off in Australia they have long been carrying on these egg-laying contests, and it is asserted that they have hens over there that are the superior in laying to any of ours.

And while we are on this subject, has any one remarked the number of white and roan prize-winning Shorthorns lately? In some of the classes at the last International Live Stock Show scarcely an animal could be found which was of that solid red demanded in the show rings a few years ago. The Shorthorn people are breeding now for character, not color. And that is the trouble with the belted breeds of cattle and swine—they are selected for a particular color requirement. Beef is the test for beef, milk for milk, and eggs for eggs—not color. The color test is for the fancier, not the farmer. Out of the egg-laying contest will come a better class of hens—for eggs. But we fear they won't be classy as to shape and color. They won't need to be.

The FARMERS' LOBBY.

By Judson C. Welliver

CONGRESS, as you will not need to be reminded, is with us once more. Election brought some results which may be characterized in non-committal fashion by the platitudinous observation that they were interesting. Further indulgence in platitude might even justify reference to them as important. Perhaps without stopping for these generalizations I may illustrate how, in some regards, matters of interest to the rural population are affected by the outcome.

I met, a day or two after the Congress session opened, a widely known official of the Department of Agriculture, and our conversation was somewhat after this style:

"Doctor, you have always been a good deal interested in the Dolliver-Davis bill looking to government encouragement of specialized agricultural education in the rural schools. What is the outlook for it making progress?"

"Well, the three principal enemies that bill has had to encounter in the house will not be with us after March 4th. They are Speaker Cannon; Representative Tawney, chairman of the house appropriations committee, and Representative Scott of Kansas, chairman of the house agricultural committee. Mr. Cannon will not be speaker; Tawney and Scott will not be in Congress."

"Sounds good for your proposition," I suggested tentatively.

"That's where a 'maybe' comes in," was the reply. "Who knows what these Democrats are going to do about such matters, now that they are coming into control of the house?"

And there you are. Nobody knows, except that the Department of Agriculture has in recent years been extremely popular with Democrats in both houses. It has done more direct work for the South than for any other section, is better known there and is thoroughly appreciated. But that doesn't by any means assure that the party is going to take up such specialties as the Dolliver-Davis measure.

National Gun-Toting

THE incident illustrates how uncertain is everything, when such a sweeping change takes place, and especially when Congress gets divided between two parties, the Senate being Republican and the House Democratic.

The new house will not come into office until after March 4th, and probably will not meet until next December. But it is already plain that there is going to be a lot of catering to public opinion, meantime. You can't tell what form it will take. Maybe, under the lead of President Taft, the Republicans will go in strong for retrenchment and economy. In that case, will the Democrats go them one better in the effort to save money, or will they take the view that it would be better politics to be liberal and "do something" for everybody that wants something done? Too early to tell yet. But there is one thing I am permitted to confide to you, and I do it on no authority but my own. It is that the amount of economies that will finally be effected will be sadly disproportionate to the amount of conversation and eloquence that will be devoted to the subject. Who would cut off the immense annual appropriation for pensions for the old soldiers? Or the appropriations for maintaining and enlarging the navy, the army and the coast defenses, and finishing the Panama Canal?

Yes, I know, there are a few folks who think we needn't build so many battle-ships; and some others who think the pension burden is excessive, and others who don't see why we need any army. But they make up a small minority, and this is theoretically a majority-rule country. Pensions, the army, the navy, fortifications and the Panama Canal make up together vastly the greater part of the annual expenditure of Uncle Sam. He could do all his other business on about thirty per cent. of what he now raises and spends.

On the other hand, the cost of these blood-letting instrumentalities is altogether likely to be immensely increased in the next decade. One of the very real sensations of the first fortnight of the session was the publication of a remarkable report setting forth that national defense is in a deplorable condition. Secretary of War Dickinson got up the report, of course, with the assistance of experts in military affairs. A curious and interesting accident befell the document.

In the first place, it was such a frank exposure of a weak condition of our national defenses as almost no nation except ours would open to the perusal of the world. But we are an open-faced lot of folks, who muck-rake ourselves with the greatest candor, and tell all the uncomplimentary things we can think of about our own affairs, quite careless of any amusement our neighbors may extract from it all. So Secretary Dickinson and his experts got up this marvelously frank exposition of national weakness and sent copies of it to the press, for "release" on a certain future date—that is, to be published simultaneously in all the papers, press associations, etc., at the date named.

After the document was sent out, however, somebody got a curious spasm of caution—curious, I mean, for anybody connected with our free-handed government. It occurred to this thoughtful somebody that it was rather foolish to tell all those secrets about our unpreparedness for defense, to nations that some day might want to jump on us when we weren't looking. Wherefore the cautious somebody induced the War Department to send out to the press agencies a withdrawal of the "release" privilege—that is, to tell the newspapers that they mustn't print the document.

The newspapers always obey orders about such things—sometimes. In this case, a mix-up occurred. The document after being made a confidential one, was, of course, a thousand times more interesting to the public. Copies of it were obtained in some fashion which did not involve violation of the "release" pledge, and it got about forty times as much publicity as it would have secured if there had been no effort to make it a mystery.

By way of adding to the sensation, the "secret" message was transmitted to the officials of the House of Representatives, for the "secret" information of the appropriate legislative authorities. Speaker Cannon promptly declined to assume responsibility for receiving any such precious communication, and sent it back to the War Department. That served to whet the desire for such a rich sensation, and the newspapers promptly made the most of it.

There will be a vast deal of worriment now about the whole affair, especially the chance that Japan will jerk off its kimono, roll up its sleeves and lick us out of our boots some morning before we have got our trousers on. And on the strength of depressing fear of such an event, Congress will be pressed as never before to strengthen the army, build still more navy, fortify the Panama Canal, build rows of forts up and down our own shores and generally fix things so that when we lock up the national house at night and put out the cat, we can go to bed with some little confidence that we won't be murdered in our beds.

And what do you think is intimated around this town? There are folks mean enough to suspect that the whole sensation was manufactured, the effort at secrecy was feigned and mystery was thrown about the affair, in order to produce a sensation and make it possible to get more money out of Congress! Did you ever hear anything more preposterous?

Economy Askew

HOWEVER, my point is that, far from getting our government on a permanently economical basis, we are much more likely to have a spasm of economy—mostly talk—and to go right on increasing our annual appropriations at about the ratio they have grown in the last decade.

Here, for instance, is the case of the Post-Office Department. President Taft and the postmaster-general, Mr. Hitchcock, are agreed in recommending to Congress the establishment of what is called a "limited" parcels post for rural routes. Which means just this: That a few rural routes are to be selected for a year's experiment, not with the actual parcels post that everybody has been thinking about for years, but with a parcels post that will be confined entirely to the little community served by the route or routes radiating from one distributing-point. That is all there is to it. In my opinion, it has about as good a chance to succeed as two-cent letter postage would have if you restricted it in the same way.

The postmaster-general's plan would please one big and powerful interest: The express companies. You see, it would make the rural routes a delivery agency through which, at postage rates, the express companies get their service extended to the farmer at his home.

I am not prepared yet to condemn this proposal in toto. But it doesn't seem to me to be the sort of experiment that will encourage to extension, or that will demonstrate what a real parcels post can do. The farmer doesn't want to be coddled, and neither does he want to be buncoed. Well, it seems that this curious limited parcels post on rural routes would amount to both coddling and buncoing him. It would be "doing something for the farmer," but it would be doing mighty little, and it would be giving the whole parcels post a black eye, because the experiment probably would not pay, and would not particularly please people.

It ought not to be necessary to fiddle along with a lot of such insignificant experiments as this, when we have the experience of the whole world with highly developed and efficient parcels posts. Yes, perhaps it would be expensive to provide equipment for it. But Mr. Hitchcock is not fearful of expense; he seriously proposes that we should very soon have one-cent letter postage, which would raise the postal deficit to something like seventy million dollars a year.

But he doesn't intend to have the deficit, all the same. Not he. He is going to meet that by raising the postage on the magazines, and letting the magazine publishers pay that little item of seventy million dollars a year. Of course, they couldn't do it; and so far as they were forced to do it, they would have to get it back from subscribers by increasing the prices of their publications. That in turn would cut off the number of subscribers; the people would be deprived of their reading matter, the publisher would lose, the post-office would not, after all, get the increased revenue that had been counted on, because the business would have shrunken so much, and in the end the same old deficit would be doing business at the original stand, popular-priced literature would be a thing of the past and people would wonder wherein they had gained by the whole project.

Experimental Dalliance

THE postmaster-general asks, in addition to this experiment with the parcels post limited to rural routes, to be permitted to try out, at a number of cities, special experimental parcels rates, to see what business will develop and what the new work would cost.

That experiment, likewise, is entirely unlikely to give any valuable information. Suppose the postmaster-general, under such authorization, gives Lima, Ohio, the privilege of specially low parcels rates. Who'll remember that Lima has that special graft, when sending a bundle there? If Lima got the special outgoing rate only, then there would be a rush of privilege-seeking business to the town, to advantage itself by the special opportunities of that year of discrimination in favor of that town.

And besides all that, if special experimental parcels rates are made at a few points by way of "trying it on the dog," don't you imagine that the express companies will see the possibilities of proving the whole plan a failure by competing with especial vigor and enthusiasm for the business of those towns?

But, while there are objections to these proposed experiments—I really believe objections that ought to justify every sincere friend of general parcels post in opposing the whole plan—yet there are some advantages. For example, the country-town merchant is one of the mainstays of present opposition to parcels post. He has come to believe it would bring in the mail-order house of the great city right to the farmer's door, and injure the country merchant. True, there has been no such effect in other countries; but the country merchant very generally believes that would be the effect in this country, and he has a lot of Congressmen worried about it.

This Hitchcock plan of parcels post or rural routes cannot possibly hurt the country merchant's feelings. So long as it is limited to a single group of routes, the merchant at the distributing-point for those routes has a cheap delivery service afforded to him, which is denied to his city competitor. He will in time, let us assume, commit himself to that sort of a parcels post. And then some nice morning Congress will extend it by giving a general parcels post, and the country merchant will have to accept it because the country will not wait any longer. It looks like a clever plan, at least, to chloroform the opposition to the country store-keeper.

POOR RELATIONS

By Adelaide Stedman

Author of "Miracle," "Intellectual Miss Clarendon," Etc.

Illustrated by Herman Pfeifer

Part IV.

Outline of Preceding Chapters

MARION and Penelope Martin, who are left penniless by the death of their father, go to New York City to make their living, Marion hoping to be a newspaper woman and Penelope intending to start as a decorator. The girls are alone in the city except for their father's wealthy relatives, who do not wish to be troubled with poor relations. After a visit from their Aunt Clem and Cousin Penelope the girls learn that they need expect no help from them—that they must fight their fight alone. The rich Penelope is engaged to John Hastings, a newspaper editor to whom Marion has a letter of introduction. After many discouragements, Penelope is commissioned to refurnish the home of Mr. Shreve, who lives at New Rochelle.

That week the girls take dinner with their aunt. Penelope and her mother are beautifully gowned to make the gulf between them and their less prosperous relatives more evident. Their airs of condescension and criticism make the girls realize their position. They had hoped for a little word of comfort from their uncle, but it is not forthcoming. In fact, he is most unpleasant and almost brutal in his manner toward the girls, and in his conversation puts great stress on poor relations, which he terms "clinging encumbrances." Their Cousin Fred is the only one who treats them with courtesy. He takes them to their hotel, to the great annoyance of his haughty mother. As he bids them good-night, he begs permission to call some time, for he seems to have taken a sudden fancy to Marion. The following Monday morning, the rich Penelope and her mother stop in to see John Hastings at his office. He asks Penelope to give her reason for not announcing their engagement. She makes some trifling excuse and at this point her mother hurries her away. No sooner has she gone than Marion is announced and presents her letter of introduction to Mr. Hastings. He has no idea that she is related to his fiancée, for the two girls decide to conceal this fact. Marion's extreme youth, and the fact that she is thrown on her own resources in a strange city, touch a sympathetic chord in John Hastings' big, manly heart, and he appoints her a society reporter on his paper. Just when things are beginning to look bright for the girls, and Penelope is going ahead with her plans for refurnishing Mr. Shreve's home, something unpleasant occurs at Pierces' which prompts Penelope to send to the firm her resignation. After a wretched week of fruitless attempts to find another position, she receives two letters—one from the lawyer of her uncle Stephen, who lives in St. Paul, stating that he refuses to accept the money on the mortgage on their father's house, and one from Mr. Shreve, begging her to carry out his commission privately. Once more the sun shines for the two girls, and enthusiastic Marion urges Penelope to take the mortgage money, which amounts to two thousand dollars, and start as a decorator on her own account.

"She saw John Hastings approach from the shadowed doorway"

Chapter X.

AFTER all, Penelope did adopt Marion's suggestion, and made plans for becoming a decorator on her own account. Engraved cards duly announcing her intention were sent to the entire list of society people, including one to her aunt, Mrs. Charles Frederick Martin.

When the inoffensive little notice arrived at that lady's Fifth Avenue residence it provoked a household storm which, by the time Mr. Martin came home at the dinner-hour, had grown to be a tornado of wrath.

"Charlie," his wife demanded, shaking the pasteboard beneath his nose, "what do you think of this? Did you ever hear of anything so exasperating and awful in all your life!"

"What's the matter, Clem?" the man questioned. "Stop shaking that card and let me see it."

She handed it to him with an air of unresigned martyrdom.

Mr. Martin put on his glasses and read slowly: "Miss Penelope Martin begs to announce that she has taken Rooms 333-335 H——— Building, 2— Fifth Avenue, where she will be pleased to receive orders for all manner of artistic decorating."

"Well," he drawled, "what are you excited about? I guess the girl is getting on her feet."

"I wish she'd take her feet to Kamchatka!" his wife cried wrathfully. "Can't you see what's wrong! In the first place her name is exactly the same as our daughter's. Can't you understand! Everyone will think our daughter has started in business. Already I've stopped answering the telephone, so many of our friends have rung up to ask about it. The explanations were awful!

"I telephoned the foolish girl and asked her plans. She is perfectly delighted! Says she sent cards to everybody in our set! All our friends!

"Goodness knows I've worked hard enough to make a social success and now we have to see our daughter's name flaunted in trade! If it had only been the other girl, Marion, but Penelope! Nobody can help noticing it! It's a shame!" She began to cry. "Our Pen is heartbroken! And what will John Hastings say? He's as proud as Lucifer! While nobody knew about our poor relations it was all right, but now everybody will go to her out of curiosity and spite! You know Society! Oh, Charlie, every servant will be gossiping about our affairs in a month.

"She just must stop! She can't carry out her crazy scheme! You go to her; appeal to her family pride!"

"She can't eat pride," her husband remarked dryly.

"I don't care what she eats!" The woman was sobbing heavily. The fear of ridicule, that obsession of the newly-rich, possessed her and she magnified a thousand times the importance of Penelope's venture into business. "You must do something and be quick!" she declared. "Buy her off! Bully her off! I don't care which! Only stop her! Make her recall those cards as a mistake!"

Mr. Martin frowned. "Clem," he admitted, "the only game I don't understand is the social game. It doesn't seem to have any rules. I'll have to take your word that this Penelope must be stopped. I'll have to buy her off, I suppose. What a nuisance!" he growled angrily, then looking at his wife, "For goodness sake, stop crying, Clem! I can't stand it! I'll go see the girl after dinner and fix matters!"

True to his word Frederick Martin did call on Penelope and he never forgot his interview with the two girls. Whether he bullied, begged or bribed, Penelope always had a cool positive refusal for his overtures. He was angered to the core. Business dealings with women always filled him with uneasiness. He could not understand their methods, their utterly unanswerable, illogical statements.

Finally he blurted out the real grievance his wife had and again offered money if Penelope would only adopt a French title, Madame anything, and not use the family name.

"Uncle Charlie," the girl had replied, "you know yourself that the only names worth buying are the ones above price."

Mr. Martin left enraged, and the only result of the interview was to make wider the chasm between the girls and "the family."

Chapter XI.

THE day after Penelope's announcement cards were posted the Charles Frederick Martins were scheduled for a tea, so when Mr. Martin had returned from his unsuccessful negotiations with Penelope, his wife and daughter had railed at his clumsy stupidity until he bolted into his study to seek the less irritating society of financial reports.

"I only hope it will just pour," Mrs. Martin groaned dismally as she sat at breakfast the next morning.

"Horrors, no!" Penelope answered, "a few catty women would make our lives a torment. Our only safety will be in numbers."

The afternoon proved to be of the cheerful, sunny variety, but Penelope, after an hour spent in the drawing-room where the florist was arranging great jars of flowers, seemed to recover her good humor.

By four o'clock a long line of carriages and automobiles began forming a cordon about the house, and a gay bevy of guests chatted in ever-widening groups. However, the conversation did not turn so entirely on the decorating venture as the nervous hostess had expected. Of course, there was a fusilade of questions ranging from the idle to the impertinent. Was the young lady a bachelor-girl? How did she ever have the courage to be so independent? Was she coming to the tea? But once curiosity was satisfied, most of the guests were content to let the subject drop. However, Mrs. Martin noted the absence of a few of the most exclusive women who had received invitations and she felt a hot indignation against Penelope send an angry crimson to her cheeks.

Her daughter's thoughts were not very different, only she was thanking a merciful heaven that men care little about such gossip, for the black-coated coterie about her scarcely mentioned the tabooed subject. Hastings would not arrive until late. Penelope determined that she would make light of the affair to him. His attitude did not trouble her. He was too much of a man to take heed of trifles.

After the first crush had thinned out, the Comte De Feronac stepped up to the girl. "Mademoiselle," he greeted her in French, "you look as gracious as spring with your armful of flowers." He touched the nodding blossoms on her arm, "I hope you will be as gracious to me as befits the season."

She smiled softly. She was looking very charming in a gown of rose pink, and after the annoyances of the afternoon his high-flown flattery was grateful and soothing.

"Come," he gazed at the emptying rooms, "you are not needed here. Let us go into the library and have a little chat."

Nothing loath, she allowed him to lead her into the quieter apartment and place a chair for her nearer the fire. The comte was very entertaining and amusing, better still, he was most humble and worshipful in his attitude toward the girl, and Penelope loved the incense of his flattery.

Gradually his manner became more and more lover-like and, finally, he broke out, "Miss Martin, surely you must know why I haunt your presence, why I search eagerly for ways of meeting you oftener. Surely—"

Penelope held up her hand warningly. For a half hour she had seen the trend of the comte's thoughts, and her large hazel eyes had taken speculative counsel of the leaping flames. She shook her head and spoke clearly, watching the man's face.

"You must not speak of love to me, comte," she protested, "indeed, I am deeply grieved that you should have such a desire, because," she paused as if in embarrassed hesitancy, "I am already engaged."

"Ah!" cried the comte as if he had been deeply wounded, then, "Mademoiselle," he exclaimed, "perhaps not even that—"

She rose, tall, queenly, a radiant smile on her lips, as she saw John Hastings approach from the shadowed doorway.

"What I have told you is in confidence," she murmured to the comte, then turned to the American, a hand outstretched in welcome.

Hastings' greeting was quiet. He thoroughly disliked De Feronac, and Penelope's beaming expression filled him with vague uneasiness. Surely, he thought, she had never looked like that when with him. Then he instantly dismissed the suspicion. What a jealous cad he was getting to be!

Very soon the Frenchman made his adieux and Hastings turned to his fiancée with a relieved smile. "I thought he would never go," he laughed, "so I just came in as a gentle hint, don't you know. I talked quite a while with that chattering Mrs. Obern. She was babbling something about a cousin of yours in the decorating business. To tell the truth, I didn't half listen. I was thinking about coming in here. What is it all about, Penelope?"

"Very little," the girl responded, suddenly animated, "an out-of-the-world cousin of ours has just come to New York and started in the decorating business. I

[CONTINUED ON PAGE 31]

To Those Moving South

By W. Aldrich

It is commonly believed that a general movement of farmers to the sparsely settled South must soon begin. For the benefit of the movement and of the individuals concerned, it is necessary that the main problems involved become generally known. As it now is, the great majority of those who come into middle Virginia, where I live, return whence they came, dissatisfied, having lost a large part of their capital.

The peculiar problems grow out of the facts: (1) That the South is a long-settled country with a well-established civilization, and (2) that its soils are generally poor and difficult to manage.

It used to be thought that the Southern aristocrat looked down upon the Northern "mudsill;" but now most of the "holier than thou" feeling is brought in by the new-comer from the North, and it invariably excites antagonism. It is a common notion in the North that the Southern people are wanting in enterprise and the intelligence that goes toward making a living. But the fact is that the most successful and progressive farmers here are natives, and that the new-comers are not so successful. The South is progressive through native talent and intelligence.

There is some state pride and provincialism in the South, but little more than in Maine and other New England States. There is no "Virginia for Virginians" feeling except as to political offices. Virginians sell the soil of their state with very little regret, and exhibit little exclusiveness in business or industry.

Distrust of the ability of Northern men to handle the race question, added to state pride and a mild kind of ancestor worship, will keep new-comers out of the political offices. But those who wish to go into politics had better stay where they are natives, or go to large cities and new states where few are natives to the locality.

Many come to a region of cheap land to mend their fortunes after failure elsewhere. Many others come South to farm, never having been farmers. Many who fail here would fail anywhere. Cheap land is a snare to many.

They cheat themselves into the notion that they get the land for less than it is really worth and proceed to act accordingly. They fail to realize that the Southern people are as good bargainers as Yankees, and that the majority coming here pay more for the land than it is really worth. Land that is really profitable is worth at least fifty dollars per acre, and if any one buys land here for five dollars per acre, he may be sure that he has forty-five dollars yet to pay in part payments in the shape of improvements. While such improvements are being made, living on the land is hard and uncertain, as in all cases of buying a farm on deferred payments. It requires far more judgment and knowledge to make a living while improving poor land than to pay back payments on good land. But if the buyer realizes his problem beforehand, he is better able to accomplish its solution.

Northern and Western notions of farming have to be modified to conform to our Southern conditions, especially in the middle altitudes. The old local methods have some justification, in fact, and in the exigencies of making a present living. The last word has not been said as to the management of our soils, and is not known even to our "experts." But industry and judgment, with some knoweldge of local experience, will now be fairly successful on these soils, and some day it will become generally known how to work them and not have their best constituents go into suspension and run off in the waters with which our soils are too abundantly washed.

It is well for strangers here to begin by making the money crops—tobacco and cotton—just as made by their new neighbors. A general conforming to the farming customs of the country is necessary to the new-comer, though he may later make some improvements on this practice, as indeed he will find his more progressive neighbors are already doing. Probably an improved rotation in support of the money crop, rather than diversification, is desirable. In the South specialization has always been the tendency among successful farmers. It is hard enough for one man to accomplish one thing perfectly on our refractory soils.

The new-comer must learn the social code that governs the intercourse of the two races at once and conform strictly thereto. There are plenty of reasons behind this code which is never long questioned by the new-comer, and is not resisted by the members of the colored race who despise too great familiarity on the part of the white people.

This is a church-going community, and the new-comer, of whatever sect, or no sect, should attend church regularly and make regular deposits in the contribution-basket of white, green or yellow money. Red money has no odor of sanctity or social standing. People live widely apart and the church is the most convenient place for meeting one's neighbors. It is the farmers' club and the ladies' society. It is a foolish boorishness that keeps so many of the new-comers away from our churches. Many are supersensitive about being recognized by the congregation. If they keep on going and giving, they will be recognized soon enough.

Many people of obviously no social qualities stand back and complain that they are not sought out for social recognition. New-comers should use a little sense in this matter, as in many others in which they are querulous and fault-finding without reason. Here, as elsewhere, social advantages have their corresponding duties, and one must be quick to learn and practise the duties expected before he can expect the advantages.

New-comers should be diligent in their own business to show their quality and avoid the poverty that comes to so many coming here and practising their own notions of farming until they lose all their money. They should avoid the too common practice of continually complaining of the roads, the schools, the soil and all the other things that are to be expected where land is bought so cheaply. If the new-comer will cheerfully attend to his own business and gradually learn to do what he can to better the conditions here, he will soon find that all his neighbors are coöperating. This is a mighty poor place for any one to interfere too much with his neighbors' business, whether public or private, and the man who makes a practice of doing so soon gets disliked.

The main application of this second commandment is in relation to the memories of the historical events which occurred forty-five to fifty years ago. Instead of being forgotten, they have been made the basis of a kind of political, social and historical religion throughout the South. Little and big politicians find it an easy and always ready means of firing the popular heart and riding into political employment, and the cult is growing rather than subsiding with the thinning of the ranks of the veterans of the great war. But the Confederate cult has now reached such a development that it is far too sacred to be offered to outsiders, and your neighbors do not insist on talking it to new-comers.

The two minor commandments for new-comers in the South are: (1) Don't kill your neighbor's dog. (2) Don't interfere with his hunting on your place.

Hunting is a ruling passion in the South. Dogs are its necessary instruments. The country here is farmed open and without fences, and the practice of generations has made the "commons" a general hunting-ground. New settlers cannot stop this ancient and universal sport at their imaginary farm lines without giving offense and arousing hatred. Dogs are here loved as members of the family and cannot be killed for trespassing or general worthlessness, any more than the people's children. People here will fight for their dogs right or wrong. If one's temperament is not too nervous, he can get used to the joyous riders, runners and walkers over his premises. Real damage is very little, for the country hunter respects crops, and the minor trespasses of dogs are more exasperating than damaging. But if one puts up fences, pig-tight, bull-strong and horse-high, as fast as his improvements call for them, he need not offend his neighbors by interfering with their dogs or their hunting.

Your good fence is your most necessary and profitable improvement, keeping your own stock in place and your neighbors' stock out of mischief. It sets a pleasant limit to hunting, a good-natured barrier to dogs and is worth its cost in making your place a private game-preserve and in closing up byways and keeping prowlers in the public roads, and in promoting good neighborliness generally.

A candid recognition of the conditions and rules above outlined will make the new-comer welcome and contented in the most exclusive and "unreconstructed" county in the South. These things need not be a deterrent to any reasonable person. The problem of making a living and some surplus from our soil is one worthy of any man's efforts. This filling of the waste places of the South is one of the things which are decreed for the future, and is well within the capacities of our white race.

There is much that is specially attractive in the Southern character and practices. Make up your mind to like those traits, and disregard those things the Southerner holds in higher regard than you can appreciate. When you go South make friends among the Southerners. You will be happier and it will pay in the end.

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TIGER LILIES

An Absorbing Story of Love and Constancy

By Izola Forrester

Ben Carter stood on the narrow depot platform, a suit-case on either side of him, and took his first survey of his native town in fifteen years. It looked mighty good to him. Fifteen years of rolling prairie and treeless vistas, of barbed-wire fences and ranch bachelordom, can make almost any Yankee boy's heart leap at the very sight of a rock wall and overlapping hill distances, capped with pine and oak and chestnut and all the other tokens of particular blessedness Nature gave to her granite-ribbed slice of earth.

The fellow at the ticket-window was looking him over interestedly. Ben was direct and impulsive in his ways. As he caught the gleam of friendly curiosity, he went over and put out his hand.

"How are you? You're the first human I've seen here in Sconset and you look pleasant to me. My name's Ben Carter. I used to live here."

Tommy nodded, in a non-committal way. He never committed himself over strangers. The last drummer had sworn he had been born over in the old Granger place and had sold Tommy six pairs of socks that had disrupted the peace of his home at the first washing.

"It's a sightly place," said Tommy.

"Sightly? Say, boy, it's the road to paradise." He laughed a big, round laugh that sounded oddly in the quiet morning stillness of Sconset, and picked up the suit-cases.

"Who lives at the old Carter place now?"

If there was a bit of tremor in the tone, the boy failed to notice it. He took the stranger down to the steps at the end of the platform and showed him the white gables of the old Carter place, half-way up the hillside after you crossed the bridge. And he assured him that nobody lived at the old Carter place except old Mrs. Carter and a girl that helped her with the work.

"Nobody else," Ben repeated, as he started at a long, easy stride down the village street. "Wonder where they do live? I kind of thought they'd stick to the old place and take care of mother."

For two thousand miles he had rehearsed what he should say in the next ten minutes. He had fortified himself for those ten minutes, and the crisis they held in his life for fifteen years. And yet now, when he came to the corner of the Carter grounds and saw the big white house before him, with its many gables and porches and "ells," he stopped and rested, trying to get back the grip on himself.

And he set the suit-cases down again on the tarred walk, and took off his hat, leaning on the high stone wall and letting his eyes look their full on the old home.

It had not changed at all, that he could see, only for the flowers. Surely there had never been so many flowers before. Beds of double poppies flaunting silken petals in the light breeze, diamond-shaped beds of many colored zinnias, like little rainbow-tinted suns, tansy standing tall and girlish in long rows of feathery green, with golden buttons topping all, phlox and flowering currant and trumpet flowers, with gorgeous horn-shaped blossoms, and, best of all, along the four rock walls that girdled in the place, bushes of snowdrops and tiger lilies.

Ben closed his eyes tightly to shut out the picture a second and keep back the traitor tears that welled to his eyes. For the moment the place was a blur. All he saw was the wall, the old gray rock wall, and the rows and rows of tiger lilies, reaching out their black and gold sprinkled hearts to him in the sunlight. Polly had loved tiger lilies. He never saw one that he didn't think of her, her brown curls framing her dear, childish face like a picture, her dark eyes so teasing, so mischievous, so alluring that they made his boy's heart ache like the toothache. Day after day, in the summertime, when the tiger lilies bloomed, he and Everitt had come along from the barn across the road and found her there on the old rock wall, with the tiger lilies all about in their scarlet splendor. She would slip a couple in her curls, one over each small ear, and another at her throat, and long-stemmed ones lying on her lap while she braided them into a horseshoe to hang about her neck. And when the boys came along, half-grown, hungry-eyed, awkward farm boys, she would pelt them with the lilies and laugh and run away down the lane to her own home. Then he and Everitt would fight for the lilies she had thrown, fight fiercely, desperately, and Everitt usually got the lilies. Ben grinned as he remembered it all. Everitt usually did get what he wanted.

Then a few years more slipped past, and he saw another picture there by the old gray wall with its rows of tiger lilies. He had been away for a few months and had come home with a great resolve to end it and tell her he loved her and take his chance. And as he had come up the long hill road, as he had this morning, he had seen them standing by the wall, and he knew then that Everitt had first chance.

He had not spoken to them, but, unseen, had gone on up to the house, to his mother's room. And in that quick embrace and his first half-choked words she had learned the truth, that both her boys were in love with Polly, and, woman-like, she knew that while only one might win his heart's choice, the end would be the breaking of the ties of brotherhood.

And she had told Ben then that she thought Polly loved Everitt.

It seemed as if she must love him. He was tall and strong and tanned, with deep blue eyes and curly blond hair that crisped up from his forehead boyishly. Everybody loved Everitt. Beside him, Ben, the younger one, had always felt like a half-grown calf. He was too big. Even the minister had said chafingly that Ben would not have to travel as far as other people to reach heaven, for he had four inches the start now. With his thick dark hair and gray eyes, his broad, close-lipped mouth and square chin, he had seemed a bit out of the running compared with debonair Everitt.

"I think they will be married, dear," his mother had told him, holding his hands tenderly and patting the rough, short-clipped hair as she had when he was little. "You must be brave and fair and generous to them both. If you truly love her, you will give her her life's happiness."

That was what he had tried to do. He had gone West and had left Everitt a clear field. He had not made trouble, but one thing he had done. They should have their happiness, but he would never look upon that happiness, never see Polly moving about the old home as Everitt's wife. That gift at least he might rightfully wrest from the hands of fate.

But now, after fifteen years, as he smiled at the old house beyond the beds of flowers, all the heartache and bitterness had melted from his heart. What was the use, he had told himself out West, in hugging misery to one's heart. He was thirty-eight now, old enough to know better. He would sell out and go back home and see the folks, see his mother and Polly and Everitt, and their children.

That was another point he suddenly missed the fulfillment of. The old garden was too quiet. There should have been voices of children about. Those voices had always been part of the picture he had seen in the firelight glow at the ranch, children with Polly's clear ripple of merriment in their laughter and her dancing witchery in their brown eyes and Everitt's blond curls on their heads.

He stopped suddenly. Somebody was walking along the flagged walk behind him, and he turned. It was Polly. Not a word could he speak. Hungrily, thirstily, as a man who has lain for days on the hot desert sands raises himself to gaze on the beauty of a rising mirage, so did Ben Carter look for the first time in fifteen years on the face of the only woman he had ever loved. He forgot Everitt, forgot the voices he had listened for in the old garden, voices of human flowers of life with brown eyes and blond curls. Her arms were full of tiger lilies. Their scarlet blooms glowed richly against her gray dress and tender coloring. She was slender and sweet as the girl he remembered, and as her startled gaze was held by his, the color rose slowly in her cheeks. He had loved to see Polly blush years ago. A great, overmastering yearning swept over him. He wanted to reach out and take her close in his arms, he wanted to hold her close, close, without words, and kiss her dear brown curls and tender eyelids, her sweet, quivering lips and the dimple that cleft her chin. He had always wanted to kiss that dimple. More than once he had caught a stinging rap on the ears from Polly's ready hand in the school-days for trying to reach it.

But suddenly he remembered. Not Everitt, but his mother's words that day when he had told her his trouble. He must be brave and fair, and generous to them both. So he held out his hand in comradely fashion to her and said, "I've come home, Polly."

"Ben," she whispered under her breath. "Ben."

He thought she was going to faint, but she put out both hands to hold him away from her, and the lilies fell at her feet as she leaned back against the old wall.

"It's—it's such a surprise, Ben," she faltered. "Just a minute, please. No, don't touch me. I'm all right, truly I am, only, it's such a surprise. You see," she smiled faintly, but bravely, up at him, her eyes filled with tears, "you see we thought you must be dead."

"I'm a husky corpse," laughed Ben unsteadily. He could not trust himself to look at her eyes. "But I'm a good prodigal, Polly. There's something besides husks in those suit-cases. Where's mother?"

"Asleep." Her eyes were startled still, her hands were clenched tightly behind her. "I left her taking her morning nap while I came out to pick the tiger lilies."

"You still like them?"

"I love them, Ben." Her tone was low and sweet.

"You used to stick them in some way, through your hair, behind your ears," Ben began awkwardly, dreamily, looking down at her. "Wait a minute." He picked up a couple and slipped them over each small ear in the old way. "And you look just the same, too, Polly, I swear you do. Say, I've got a couple yet that fell out of your hair one day, and I got them away from Everitt and pressed them, yes, I have. That wasn't much to take away from him, was it, just a couple of tiger lilies that fell out of your hair."

She did not answer. Her eyes closed, and her lips were pressed closely together as if in pain. Ben reached down and lifted her hands to his lips.

"Don't you, Polly, don't you cry. I didn't mean to even speak of it. It's all gone by now and don't amount to anything. I won't hold any grudge against him for getting you. I made up my mind to that when I came back. I'm going to ask all your pardons for being a sort of a kill-joy and giving you any trouble at all. I'll be mighty glad to see the boy again and grip his old hand—"

He stopped short. Polly's hands rested on his shoulders, she was looking straight up at his, her eyes filled with tears.

"Don't Ben, dear, don't talk that way," she pleaded. "Everitt has been dead for years. I—I never married him."

Her voice failed her, and her head slowly drooped under Ben's look of amazement. It was very still in the old garden. An oriole up in the red maples was singing clear, tender notes of limpid melody, and down by the brook a catbird hidden away in the alders meowed shrilly. Her words forced themselves on his understanding, in all their simple, tragic significance. Everitt was dead, and she was living there at the old place, alone with his mother, for what?

"You didn't marry him," he repeated doubtfully. "That's why I went away, Polly, because I—I always thought you wanted Everitt, and I wanted you both to be happy."

"I know, Ben. I always understood. So did Everitt. He tried to find you."

Ben had dropped his soft felt hat somewhere behind him on the grass. The gate was still between them, the little old gray weather-beaten gate that certainly needed fixing up, as it swung on one hinge. Ben opened it wide, for her to pass through into the garden, and he said, stumbling like a boy over his words:

"Don't you need a man around, Polly?"

The old quick smile of understanding flashed over Polly's face, but she said nothing, and he went on, holding both her hands in his.

"If you only could forgive me for the blind, dogged way I looked at things."

She laughed softly, lifting her face to his.

"Ben, you stupid, slow old dear, don't you see, can't you see? I've lived here for years with mother—oh, yes, I call her mother, too—and we've just hoped and hoped that some day you would come back to us."

Five minutes later Ben reached down after his hat and the suit-cases and the tiger lilies, and followed Polly up the walk to the house. Once Polly turned, just at the porch steps, and smiled at him.

"Glad, Ben?"

He reached over quickly, then laughed, as he accomplished his heart's desire.

"There, by jiminy," he said, "I always wanted to kiss that dimple, Polly."

And laughing together, his arm around her waist, they went softly to the south room where the mother was sleeping.

"He stopped suddenly . . . It was Polly . . . Her arms were full of tiger lilies"

SUNDAY READING

The Secret of Happiness

By Orin Edson Crooker

JOHN POUNDS was a London cobbler who spent his life mending shoes in a dingy little shop in an obscure street. He lived in poverty, but this did not prevent him from doing a great work for humanity. Year after year he took the newsboys and ragged street urchins into his mean little shop and as they crowded around him while he pegged away at his shoes he taught them to read, write and cipher. Many scores of boys and girls were given their only start in life by John Pounds, and not a few of them have grown to be useful men and women who bless the memory of their great benefactor.

A young woman once said to Mr. Pounds shortly before he died, "I wish you were rich. Your life would be so much happier." The old man paused for a few seconds and then replied, "Well, I don't know. Had I been rich I might, perhaps, have been much the same as other rich people. This, however, I know: There is not a happier man in England than John Pounds. I think it is best as it is."

How many people there are who think themselves just about to solve the great secret of happiness. For years, perhaps, they have toiled and worked, skimped and saved, in pursuit of some will-o'-the-wisp which it is expected will bring them happiness. The goal is almost within their grasp. A little more and they will reach out after it and gain the end so long in view.

But will-o'-the-wisps are illusive creatures, and happiness is one of them. We may gain the end for which we have struggled and toiled, but alas! Happiness, which we thought would attend the fulfillment of our quest, goes dancing on before us as far from our grasp as ever.

Would you know the real secret of gaining happiness? Would you be spared the disappointment of finding that your efforts have been unavailing? Then listen! The real secret of gaining happiness is not to be found in wealth, position, power or any of the worldly rewards for which men strive. Far oftener these things mean only added responsibilities, more cares, heavier burdens.

Happiness, on the other hand, is a blessing that comes best unsought. It finds its way most frequently into our lives when we think very little about it and when, like John Pounds, we are so far forgetful of self as to be concerned only with securing the welfare and happiness of others.

Seek happiness, then, not for yourself, but for others. Give yourself to deeds of service. Help carry the burden of another. Sacrifice, if need be, in order that the life of some one else may be made brighter and cheerier. Somehow, from all of this, there will result a satisfaction that will drive away all thoughts of your own desire for happiness. You will find that you are happy in making others happy.

Popular Missionary Hymn

By Frank J. Metcalf

FROM Greenland's icy mountains,
From India's coral strand,
Where Afric's sunny fountains
Roll down their golden sand,
From many an ancient river,
From many a palmy plain
They call us to deliver
Their land from error's chain.

What though the spicy breezes
Blow soft o'er Ceylon's isle,
Though every prospect pleases,
And only man is vile.
In vain with lavish kindness
The gifts of God are strewn;
The heathen in his blindness
Bows down to wood and stone.

Can we, whose souls are lighted
By wisdom from on high,
Can we to men benighted
The lamp of life deny?
Salvation, O salvation!
The joyful sound proclaim
Till earth's remotest nation
Has learned Messiah's name.

Waft, waft, ye winds, his story,
And you, ye waters, roll,
Till like a sea of glory
It spreads from pole to pole.
Till o'er our ransomed nature
The lamb for sinners slain,
Redeemer, King, Creator,
In bliss returns to reign.

Reginald Heber wrote this hymn long before he had been to India. It was first set to music by Handel, but in this country it is now universally used with the tune composed for it by Lowell Mason, who was then a bank clerk at Charleston, South Carolina.

Heber was born April 21, 1783, in Cheshire County, England, and died April 3, 1826, in India. His father was a man of wealth, so the son received every advantage in education. He spent two years on the Continent traveling very extensively, and on his return to England he took holy orders and settled at Hodnet. Here he remained sixteen years.

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Now the wife has her heart set on a new parlor carpet—maybe it's only a chair or two, or a new kitchen stove. These are her **tools.** She needs them, **too.** But you don't have to spend the harvest money to get them.

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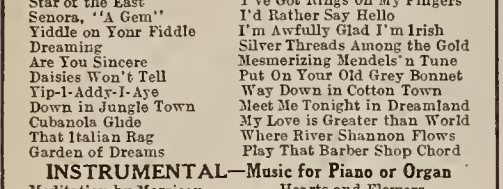

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Turkey in the Straw	Ben Hur Chariot Race
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Interesting Alligator Farms

By Arthur Inkersley

IT MAY be said "without fear of successful contradiction," as the street vender states, that one of the queerest industries on earth is the raising of alligators for the market. There are in the United States two well-established and profitable "alligator farms"—one at Hot Springs, Arkansas, founded about eight years ago, and the other, started a few years later, at Los Angeles, California. The pioneer of the industry and the founder of the Arkansas farm was H. J. Campbell, who, from boyhood has been familiar with alligators in India and the United States. The chief haunts of alligators in North America are the Everglades of Florida, the swamps of Mississippi and Texas and the bayous of Louisiana, though the saurians have been found as far north as the New River in North Carolina.

Alligator waiting for a rabbit at the "alligator farm," Los Angeles, California

After alligator-hide had become a recognized commercial product, the demand for it increased so rapidly and the creature was hunted so remorselessly that in ten years, according to a report of the United States Fish Commission, more than three million alligators were killed in the state of Florida, besides thousands that were destroyed in other Southern states. The alligator is so slow in attaining maturity that one measuring two feet in length is about ten years of age, while one having a length of twelve feet may be from one hundred to two hundred years old. It soon became apparent that, if the alligators were slaughtered in so wholesale a fashion, they would be in danger of extinction. In some parts of the Southern states, where they were killed by organized bands of farmers, whose cattle they raided, and by professional hunters, who wanted their hides, they are now protected by law. Mr. Campbell perceived that the alligator had a high commercial value and would become rare in a wild state in the course of a few years. As it is a hardy creature and costs almost nothing to feed, Mr. Campbell believed that its artificial propagation would be a profitable enterprise. Hence the Arkansas establishment and later the California Alligator Farm.

The latter is near Eastlake Park, Los Angeles, occupying a little tract of about two acres watered by a small stream. In order to accommodate the saurians, the stream has been widened, so as to form pools or ponds, each of which is surrounded by a substantial fence of chicken-wire, so as to keep its inhabitants from straying, and is given up to alligators of the same size and age. This segregation is absolutely necessary, for, if alligators of various sizes and ages were put into the same enclosure, the larger would devour the smaller and the profits of the farmer would be literally eaten up. Rushes and other aquatic plants grow in each pond and furnish cover in which the alligators may hide from view and where the females may build their nests and lay their eggs in the proper season.

The large specimens and the breeding stock at the farm, varying from twenty to sixty years old, have, of course, been captured by professional hunters, who are familiar with the haunts of the alligators and the various methods of taking them. The "babies" and young alligators have been bred at the farm and are strictly native Californians. In a state of nature the alligator burrows into the mud on the banks of a stream or swamp, remaining buried all through the winter, and coming out again when the warmth of spring wakens it to active life. At the Arkansas farm on the approach of winter the alligators are placed in a long, low building in which is a series of pools of water, kept tepid by steam-pipes passing through them. Under these conditions the alligators remain dormant and may be handled with safety. In Southern California the climate is so mild and genial even in the coldest months that the alligators do not hibernate, but remain in the open air all winter, enjoying the sunshine, but eating no food.

The summer is the breeding season, and during the month of June the males become very dangerous, fighting so viciously that great care has to be exercised to keep them from hurting each other seriously. They call to their mates, bellowing like bulls and turning the farm into a pandemonium. Sometimes it is found necessary to muzzle the more violent males. In a state of nature when the female is ready to lay her eggs, she picks out a quiet, sheltered spot and fashions a sort of mat by scraping together with her feet rushes, mud and bits of sticks. On this she deposits a layer of eggs; puts another mat on the eggs and on the second mat lays more eggs; then a third mat and more eggs; each upper layer being smaller than the one beneath it. At last a cone about four feet high is built and from thirty to sixty eggs have been laid. The cones are well constructed and will withstand rain and ordinary storms, though now and then a flood sweeps them away when they are on the banks of a stream. The eggs are long, narrow and shaped like a capsule. They weigh about four ounces and, when the alligator is wild, are hatched by the warmth of the sun, the time required varying according to the heat of the summer. The mother remains on guard all the time and is very savage, suffering no one to approach the nest. But as soon as the young alligators are hatched, she leaves them to shift for themselves, considering her duty done. On the farm the eggs are taken from the nest and placed in a large incubator built specially for the purpose. Each tray in the incubator holds forty-five eggs. The temperature is kept at eighty degrees, though a considerable variation in the heat does little or no harm. Nearly every egg produces a little 'gator, hardly any turning out infertile. The baby 'gators are about seven inches long, look much like lizards and are quite lively. They are placed in the inclosure nearest to the incubator and at the upper end of the farm, having a shallow concrete trench filled with water to splash about in and being shaded from too hot a sun by palm-branches. For a few days they are fed on chopped meat, but soon grow strong enough to look after themselves. They are hardy little creatures, never suffering from unwholesome food or ill-ventilated quarters. As they grow bigger, they are moved to the next inclosure; after some time to the next, and so on. The very large, old monsters, varying from seventy-five to two hundred years of age and weighing from two hundred and fifty to three hundred pounds or more, are kept to themselves, each having a small domain of which he is sole occupant.

The breeding of the young alligators is an important part of the industry, for hundreds of the "babies" are sold to tourists or sent to various parts of the United States by express each year, the price being one dollar and twenty-five cents to two dollars and fifty cents apiece. Any eggs that fail to produce young 'gators are blown and sold as souvenirs. The small-sized alligators are bought by storekeepers, saloon-men and others, who display them in the windows of their places of business as advertisements. Those of still larger size and maturer growth are purchased by museums, zoölogical gardens and menageries in various parts of the world. In spite of the fecundity of the alligator, the supply is not equal to the demand. In order to keep up the breeding stock, it is necessary to catch mature specimens in their native haunts. This is done by experienced hunters in several ways. Some alligators are caught in nets, and some in traps which close with a strong spring when the bait is seized. But usually alligators are taken at night. They bask in the sun all day, but at dusk go to the water to sleep. When hunting in the daytime, the men note the holes and dens into which the alligators creep; into these they thrust a long pole, the end of which is covered with carpet or leather. The alligator seizes the pole in his jaws and holds on with more than bull-dog tenacity, suffering himself to be drawn by main force from his hiding-place, but never letting go. Keeping at a respectful distance from his powerful tail, which will break a man's leg at a swish, the hunters bind the animal's jaws with a noose of rope and place him in a ventilated wooden box for shipment to the farm. Another method is employed at night. The hunter, having a bull's-eye lantern in his hat, paddles gently about a stream where alligators are known to abound till he sees a ball of fire on the surface of the water. This is the alligator's eye, which is said, in the parlance of the hunter, to be "shined." Paddling quietly toward the gleaming eyeball, the hunter, when within a few feet, blows the animal's head to pieces with the charge of a shot-gun. Before the creature goes down, it is seized with a grappling-hook and drawn into the boat. Good hunters can kill a score or two in a night by this method. 'Gators of small size are picked up by the tail with the hands and are sent alive to the farm.

One of the attendants at the farm possesses the power of mesmerizing the strange creatures. Approaching one, he makes some passes, sings in a crooning tone, and soon the 'gator allows himself to be turned over on his back and lies motionless. Other alligators have been taught to "shoot the chute." One is seized by a noose and dragged to the foot of a wooden stairway, the steps of which are carpeted so as to give a better foothold. Slowly and awkwardly the saurian clambers up the steps to a little platform, where he waits a minute or two till the spectators have walked around to the front of the chute; then at the word of command he slides head first down into the pool. How the people laugh and shout! It would almost seem as though the 'gator knew that he was performing before an enthusiastic audience, the way he comes down the chute.

A big incubator and a tray showing eggs and young alligators that have just emerged from the shell

A favorite time at which to visit the Los Angeles farm is on a Sunday afternoon, when the animals receive their weekly meal, which consists ordinarily of waste meat from the packing establishments, and occasionally of chickens, ducks or rabbits, which are killed before they are thrown to the 'gators.

The farms are usually crowded with visitors who seem to delight in watching the alligators consume their generous portions of meat. It is amazing the large quantities that an ordinary sized 'gator will eat and how quickly he devours the food. When the keeper appears, the alligators seem to know that it is dinner-time.

Your LAST CHANCE

Big 20-Day Bargain Offers

The Best 1911 Calendar Without Cost

A Gift to Subscribers

THIS is your last chance to obtain, without cost, the most beautiful and elegant Calendar of 1911. Never before has FARM AND FIRESIDE made a Calendar that has been so popular with its readers. Already nearly one hundred thousand readers have obtained the Calendar. If you want the most beautiful 1911 Calendar to decorate your walls you must **act at once.** Don't delay. To obtain the Calendar you must act within 20 days, but we advise you to reply at once, then you will be sure to receive one. Every FARM AND FIRESIDE family can obtain this Calendar **without cost** during the next 20 days. If you have not yet obtained your Calendar, write to-day as explained below.

A Remarkably Beautiful Calendar

We started to make your 1911 Calendar almost a year ago. We decided that, to make it more beautiful and more interesting than any other calendar this year, we would show the pictures of three girls, instead of one, and that these would be the loveliest girls' heads painted in recent years. Months were spent in searching for them, and here they are—three beautiful, healthy, American girls—the handsomest girl pictures in years.

An Ornament For Any Home

After we got the pictures, months have been spent in making the Calendar itself. The Calendar for every month has been drawn by hand by an artist. The paper on which the Calendar is printed is the best of glazed picture paper, the kind expensive pictures are printed on when bought in stores. And as we said before, the Calendar has been printed twelve different times, each time in a different color. **The result is a gorgeous display of color that will brighten and cheer every home.**

What You Will Get

EVERY READER who accepts any one of the offers below will receive a copy of FARM AND FIRESIDE'S Beauty Calendar absolutely without cost with a subscription to FARM AND FIRESIDE. The Calendar will be sent carefully packed in a tube, postage prepaid, and we guarantee that it will reach you in perfect condition. This 1911 Beauty Calendar will make the most showy and handsome picture you ever saw when hung on the wall of your living-room. It is two-and-half feet in length, printed on the finest heavy paper, brass-bound at top and bottom so it won't tear or roll, with a patent hanger, all ready to hang up.

Anniversary Number of Farm and Fireside

The next issue of FARM AND FIRESIDE marks the 33d anniversary of the existence of **the National Farm Paper.** This great event will be fittingly celebrated by FARM AND FIRESIDE, and every reader will enjoy the extra anniversary features. During its 33 years of success, FARM AND FIRESIDE has won the respect and admiration of the entire farming community. It is a stand-by in most of the prosperous homes of the country. The 1911 issues will be better than ever before.

The Farm Paper Leader

For 33 years FARM AND FIRESIDE has been the acknowledged leader of the farm papers. This policy is best illustrated by the numerous distinctive and popular features of FARM AND FIRESIDE, as, for instance, our Farmers' Lobby at Washington, D. C. FARM AND FIRESIDE also maintains a special staff of expert authorities to answer any and all questions about farm matters. Each issue during the ensuing year will contain important articles on the marketing of farm products. "When to Sell Wheat," "Fair Milk Prices, and How to Get Them," "What Constitutes the Best Market Price," and the like.

Read Below How to Get the 1911 Beauty Calendar

Positively the Last Time

This is positively your last chance to get one of these 1911 Beauty Calendars without cost, as the offer is certain to be withdrawn within a period of 20 days. If you don't wish this unusual opportunity to get away from you, the very best time to act is right now.

Until Feb. 1st

These offers expire on February 1st. It is important that every reader who wishes to obtain the 1911 Beauty Calendar, should send his order before that date. It will pay you to renew in advance even if your subscription has not yet expired.

New Year's Offer No. 1

Send 50c. for a one-year subscription to FARM AND FIRESIDE—24 numbers—and you will receive the 1911 Beauty Calendar at once, without cost, postage prepaid.

New Year's Offer No. 2

Send $1.00 for a three-year subscription to FARM AND FIRESIDE (to one address) 72 numbers, and you will receive the 1911 Beauty Calendar at once, without cost, postage prepaid. You will also receive without cost, a box of 50 beautiful Valentine post-cards, all different.

New Year's Offer No. 3

Without Cost Get two friends each to hand you 50 cents for a one-year subscription to FARM AND FIRESIDE and send us $1.00 for the two subscriptions. In return we will send you FARM AND FIRESIDE for one year without cost. We will also send you a box of 50 Valentine post-cards, post-paid. A 1911 Beauty Calendar will be sent to you, and to each of your two friends.

ORDER WITHIN 20 DAYS

Rush Order-Blank

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I accept offer No. ..... for which find inclosed $..... . Send FARM AND FIRESIDE and Calendar to each address below.

Name ..... Address .....

Name ..... Address .....

Name ..... Address .....

If you accept offer No. 2 or No. 3 you will receive 50 Beautiful Valentine and Birthday Post-Cards without cost.

OUR YOUNG FOLKS' DEPARTMENT

Conducted by Cousin Sally

A Letter to Our Girls and Boys

From Cousin Sally

Dear Girls and Boys:—

Many, many hearty thanks to you, my dear boys and girls, for sending a New Year thought my way. It went straight to my heart and after I read your letters which contained only good wishes and happy thoughts for my future, a big lump came in my throat. And I sat at my desk a long time, thinking what a fortunate girl I was to have such an army of little friends—and such constant ones, too. I want you boys and girls to know that your New Year greetings and good wishes were appreciated and shall always be cherished by me.

Now that we are once more beginning a new year, let us try to make it the best one of our lives. From the very start our club has been a source of great joy to me. It is a big success; only it must be a *bigger* success this year. Mind you, I say *"must."* If you will all say *"must"* straight from your heart, as though you meant it, and will put your shoulders to the wheel, our dream can't help but come true. It has to, that's all!

What I specially want to talk about this time is our club and the work of our branch clubs. This letter should interest non-members as well as members, for I feel sure that my suggestions will help them, too. First I shall talk to my girls; I'll come to you boys later and give you and the girls a few outdoor and indoor games.

Recently the presidents of some of my branch clubs, who are really making a success of their club work, have asked me for suggestions for making money; some have asked for games, others for ideas for fairs and still others for ideas for giving successful parties.

A Japanese Tea-Party

When I was a girl of thriteen, I belonged to a sewing and reading club called "The Cherry Blossom Club." We pretended that we were Japanese maidens and the first year we studied about Japan, and occasionally one of the members would read aloud some lovely Japanese legend or goblin story while the others sewed. After the club went along successfully for a year we thought it was high time to celebrate in some way. So I suggested that we give a tea-party and invite all our friends and schoolmates. The invitations read: "'The Cherry Blossoms' request your honorable presence at our tea-party, which will take place Thursday, between the hours of five and eight, at the home of our president. Tea will be served to all honorable guests at five cents a cup."

Well, such fun as we had planning that tea-party. The invitations had not been out a day before everybody in the village heard about it and was eager to come. When the happy day arrived, we girls were quite overwhelmed at the throng of jolly boys and girls that came trooping into Dorothy's house.

Our tea-party was held in a big old-fashioned room with an open fireplace. How the logs did crackle and how the flames did rush up the great square chimney! I can see it yet. The light from the fireplace and the Japanese lanterns hanging from the ceiling cast a soft glow over the room and made it all seem like a picture of the Orient come to life. Ropes of yellow and lavender crêpe paper were festooned from the chandelier to the walls and looped up at intervals with large white chrysanthemums, which one club girl's mother had made for us. Hanging from the chandelier was a large Japanese parasol and from its handle dangled a card which read:

Beware! Beware! ye honorable guests
Assembled here to-day!
If kissed beneath my canopy,
A forfeit you must pay!

The Japanese are very fond of paying forfeits, so this seemed very appropriate. We all tried to steer clear of the parasol, but nearly every one had to pay a forfeit which was later redeemed.

Our Costumes

Oh! it was such a jolly tea-party! How we club members hurried back and forth pouring tea and serving it! We looked for all the world like little Japanese maidens dressed in gay colored cotton crêpe kimonos which we girls had made at club meetings. Our hair was combed back straight, pompadour fashion, with gay colored paper chrysanthemums pinned most coquettishly at the side. And wasn't it strange, we all had dark hair except Gertrude. The guests sat on cushions which were dropped here and there around the room and we served the tea and little cakes on lacquered trays, for we were little Japanese girls and were not used to chairs like our American cousins. It kept five of our club members busy making the tea while the other five served it. As the boys and girls finished drinking their tea, Marjorie was right on hand to tell their fortunes from the tea-leaves in the bottom of the cup. This caused no end of merriment, for Marjorie was very bright and said funny things that set us all in an uproar. By seven o'clock all but about ten or a dozen of our guests had gone, so we decided to play some games. Gladys was clever with the paint-brush and had made a very attractive drawing of a Japanese girl which was tacked on the wall. Then everyone in turn was blindfolded, given a small paper chrysanthemum and asked to pin it on the dark tresses of the girl in the picture. A prize was given to the boy and girl who pinned it in the right place, while a tiny five-cent Japanese doll was given as the booby prize. Then we played "Puss in the Corner," for the Japanese children are just as fond of this game as we are. After this same "Hunt the Thimble," only we hid a slipper instead, just the way the little Japanese children do. It was such fun!

Betty's Picture-Book

By Eva May Farlow

When Betty puts her dolls to sleep
And all their prayers are said,
She takes her little picture-book
And sits beside their bed.

Pictures! Pictures! gay and bright,
Just see the woolly lamb!
But what is this—a naughty boy
Is in his mother's jam.

O dear! O dear! the jar has slipped
And fallen on his head,
And now his mother's spanking him
And sending him to bed.

Now comes the queerest looking man,
Of sense he hasn't any,
He's Simple Simon and he sells
A big pie for a penny.

And who's this happy-looking boy
A-sitting in a corner—
His little thumb stuck in a pie—
I guess that he's Jack Horner!

And just as Betty turns the page
To look at dear Bo-Peep
The Sandman tiptoes to the door
And beckons her to sleep.

And off to Happyland she goes,
Where dwell the fairies bright;
The land where little boys and girls
Do everything that's right.

Our Tea-Party is a Success

As a closing to our tea-party we club members did a little dance—just a few graceful steps back and forth, in and out, carrying Japanese fans and bobbing our heads as we went. Then the party came to an end. As the boys and girls tripped merrily down the stairs into the street, we girls followed hot on their trail and when they weren't looking let go a handful of rice which we had slyly concealed in our hands. How they laughed and shouted as they trooped away! Our party was a great success and we "Cherry Blossoms" felt that it was well worth the trouble and the time that we had to get it up. I shall be ever so happy to know that you girls are planning to have a Japanese tea-party just like mine. Do try it. You're sure to have a good time.

Indoor and Outdoor Games

Captain—All choose partners but one child who represents the Captain. The others, who are the Crew, form in a line around the Captain and, walking two and two, sing,

Oh, Captain, we shall burn the boat
Or wicked pirates be
Unless my partner, you can catch—
Take care! or you shall see!

After the Crew sings this twice they change partners and the Captain makes a rush to get a partner. The player left out then becomes the Captain and the game goes on.

Poor Ducky—The boys and girls sit around in a circle and some one is chosen to be Poor Ducky. It then falls to the lot of Ducky to quack in front of some one player who must stroke Ducky's head and say, "Poor Ducky, Poor Ducky, Poor Ducky!" repeating the words three times without smiling. If the player smiles while he is stroking the Duck's head, he or she must change places with Ducky. To make it all the harder for the players to keep from laughing, Ducky should make the most comical faces he knows how while he is quacking and the funnier his voice, the more fun there will be. Do you know, a lot of us grown girls played this game the other evening, and it was lots of fun to see all the guests look so sober and dignified, and then finally burst out into a hearty laugh.

Bell-Boy—Here is another good indoor game. All players are blindfolded but one, who has a bell tied loosely around his neck so that it will ring at every step he takes. The players then scatter around the room and try to catch the one with the bell. The Bell-Boy will have to act pretty lively to keep out of the way, and if he is caught, he is blindfolded and his captor is made the Bell-Boy.

Animal Game—Each player chooses some animal which he or she is to imitate. One sits in the center and tells a tale, bringing in the names of the various animals chosen. At each mention of an animal, the player representing that animal must get up and imitate it. If he fails to do so, he must pay a forfeit, to be redeemed later on.

Catching the Snake's Tail—This is a Japanese game and is played as follows: The players form a line, each resting his hands on the shoulders of the player in front. The one who is the Catcher is out. The first player on the line is called the Head and the last the Tail. When the game begins, the Catcher stands about fifteen or twenty feet away from the Head and at a given signal tries to catch the Tail, or end player, without pushing any one else. The others defend the Tail by moving about in any way they choose, except that the line must not be broken, for should it break the Tail is considered caught and consequently must become the Catcher, while the Catcher goes to the head of the line.

A Snow-Ball Game—A level piece of ground is required for this game. Mark off a good-sized square where the snow is thickest and most compact, and starting from the top dig holes at intervals large enough for a snow-ball to fit into. (See the diagram.) At the side of each row a stiff piece of cardboard bearing the numbers of each hole in the row is stuck in the ground. The object of the game is to see which boy can throw his snow-ball in the hole bearing the highest number. Each player is allowed three balls, and the one who rolls the highest number wins the game. The following diagram will give you an idea of the board. The X's mean the holes and the numbers at the side are supposed to be the cardboard and show how much each hole counts in the game. You will find this to be a most interesting game.

Board:
X X X X—50—70— 60—100
X X X X—20—90—200—300
X X X X—40—80—150— 75
X X X X—50—45— 65—250

Cock Stride—In this game the boys' caps are used. One player is chosen for the Cock and then blindfolded and asked to stand up with his feet wide apart. About ten feet away from him, the players stand on line and in turn throw their caps between his legs as far as they can throw. When every player has had a turn he runs forward and stands by his own cap. The Cock then crawls on his hands and feet, still blindfolded, until he reaches a cap. The player whose cap he first touches becomes the object of chase and the other players go running after him as hard as they can go. When he is caught he is brought back and is then made the Cock, and so the game goes on.

I haven't space enough to give you all the games I intended to and I did want to speak a little more about parties. But my suggestions will keep until next time.

Assuring you all of my constant interest in your work and play and everything that concerns you, I am, as always, Faithfully yours, Cousin Sally.

Clothes for Children and Grown-Ups

Including a Set of Useful Patterns for His Highness, the Baby

Designed by Miss Gould

No. 1686—Night-Drawers With Pointed Yoke

Pattern cut for 1, 2, 4 and 6 year sizes. Material required for medium size, or for the 4 year size, four and three fourths yards of twenty-four-inch material

No. 1627—Set of Baby Patterns

Patterns cut in one size. Quantity of material required: For the cloak, two and five eighths yards of thirty-six-inch material; for the dress, two and three fourths yards of thirty-six-inch material; for the wrapper, two and one eighth yards of thirty-six-inch material; for the kimono, seven eighths of a yard of thirty-six-inch material. The price of this Set of Baby patterns, including all four garments, is ten cents

No. 1685—Girl's Underwaist and Drawers

Pattern cut for 2, 4, 6 and 8 year sizes. Material required for medium size, or for the 6 year size, two and one fourth yards of twenty-four-inch material

THE woman of fifty years or more finds she has just as many dress problems which are really very hard to solve as she had in her younger days.

With the passing of the dear old-fashioned grandmother, with her soft, white ringlets and plain somber gown, and with the introduction of youthful fashions for women of all ages, the woman over fifty to-day is often in a quandary as to her dress. If she gowns herself as her mother did, she will be conspicuous. On the other hand, perhaps she does not feel that she wants to dress just as her daughter does. The wise woman over fifty must take the middle course, therefore, and bring to her aid her own good taste and her own individuality.

It is not always necessary for her to wear black, but she should select inconspicuous fabrics. Grays, tans and black and white are nice colors for the older woman's dresses which should be simple.

No. 1681—Waist With Adjustable Bolero

Cut for 34, 36, 38, 40, 42 and 44 inch bust. Material required for 36 inch bust, two and three fourths yards of thirty-six-inch material with one yard of velvet

No. 1682—Gored Skirt Buttoned in Front

Pattern cut for 24, 26, 28, 30, 32 and 34 inch waist. Material required for medium size or 26 inch waist, four and one half yards of thirty-six-inch material

THOUGH real dressmaking is sometimes the hardest sort of a task for the busy woman, yet if there is a new baby in the family, the making of little clothes for his precious self is never a burden. Of course, his mother wants every little garment as dainty and attractive as possible and she wants it in the right style, too. Perhaps she may be glad of some help in the way of patterns and suggestions for their making. If so, she will find illustrated on this page a most useful set of baby patterns. There are four little garments, each cut in one size only—the cloak, the dress, the wrapper and the kimono. The pattern for the wrapper can also be used by cutting off the upper part of the small round perforations on the wrapper pattern, to form the little kimono. In changing the wrapper pattern into the kimono, omit collar, wristbands and cuffs and let the sleeves hang loose. Then scallop the edges, tying the sleeves with ribbons. This set of baby clothes patterns can be bought for ten cents.

Woman's Home Companion Patterns

The woman who makes her own clothes and wants to be well dressed should use WOMAN'S HOME COMPANION patterns. Not only are they very simple, but every garment made from these smart, up-to-date patterns is sure to be a success. Illustrated on this page are some very practical designs for the busy housewife and for the mother of several little children. They are all ten cents apiece, excepting the set of baby's clothes, which is ten cents for the whole set. An order, addressed to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City, inclosing ten cents, will bring you a pattern that is worth just ten times ten cents.

We have a liberal offer to make you in regard to these patterns. Here it is: We will give one WOMAN'S HOME COMPANION pattern if you will send us only one new yearly subscription to FARM AND FIRESIDE at fifty cents. The subscription must be for some one not now a subscriber to FARM AND FIRESIDE. Send orders to the Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Follow these directions when ordering patterns: For ladies' waists, give bust measure in inches; for skirts, give waist measure in inches; for misses and children, give age. Don't fail to mention the number of the pattern. Perfect satisfaction is guaranteed.

THE smart-looking costume illustrated on this page in pattern No. 1681-1682 will be found very practical by the woman over fifty. The waist and skirt may be joined beneath the belt or they may be separate. The bolero with the short kimono sleeves may be worn or not as preferred. Gray poplin or cashmere with the bolero in a darker shade of silver would be attractive for this dress.

If the pattern is desired for making a house gown, silk would be prettier for that purpose than the cashmere. The dress should be of figured silk with the bolero plain silk. When plain silk is used for the dress the bolero could be of velvet.

Another very practical design which the older woman will also like is shown in pattern No. 1568. It is a trim-looking house gown for morning wear. Dark blue henrietta would be pretty made up in this design. The collar, cuffs and belt could be of linen in a lighter shade.

No. 1568—Tucked Wrapper in Two Styles

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, nine and one half yards of twenty-seven-inch material, or seven and three fourths yards of thirty-six-inch material. The price of this pattern is ten cents. This design is attractive when made up in wash fabrics as well as in cloth

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"Then she told me how it was a food-drink and how much better she felt since using it in place of coffee or tea, so I sent to the store and bought a package and when it was made according to directions it was so good I have never bought a pound of coffee since. I began to improve immediately.

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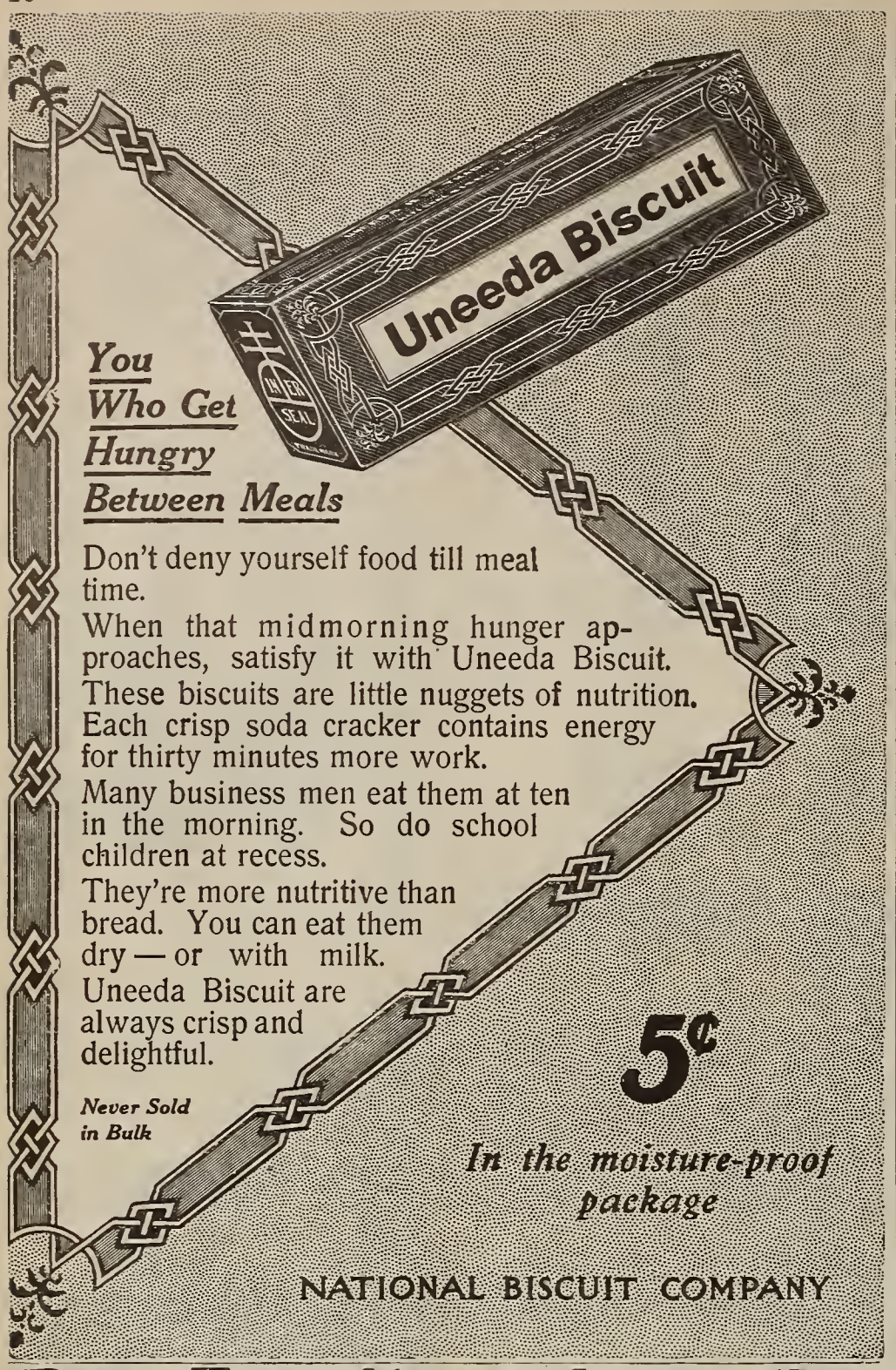

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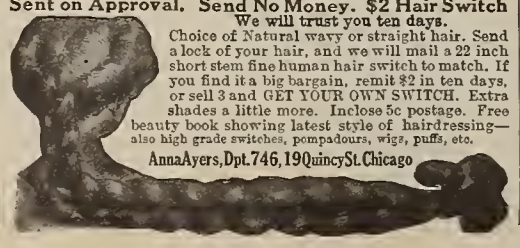

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Anna Ayers, Dpt. 746, 19 Quincy St. Chicago

Infant's Sweater and Hood

By Charlotte F. Boldtman

THE infant's hood illustrated may be made either of one skein of perle cotton No. 5, two skeins of threefold Saxony or three skeins of Pompadour wool, the latter a material like Saxony, but silk-wound. The perle cotton is a heavy mercerized cotton and comes in large hanks.

Cast on 86 stitches and knit 2, purl 2, for 8 rows. Every other row must be begun with 2 purled stitches, to preserve the rib.

Ninth Row—Knit 1, purl 1, and repeat to end.

Tenth Row—Knit plain. Repeat the last 2 rows alternately until there are 26 rows in all. Then knit in plain garter stitch, increasing 1 stitch in beginning each row, for 12 rows, when the edges of the work should be long enough to reach from the crown to the nape of the neck. If they are not, continue with the increased rows as long as necessary.

After the length is secured continue to knit in plain garter stitch, but instead of increasing, narrow 1 stitch at each end of every fourth row. Do this for 26 rows, then knit in garter stitch without narrowing until the work is deep enough for the front. Run the stitches onto a thread. Now fold the cast-on edge of the work and overhand one half to the other, then overhand together the edges of the work to the last increased row. Take the points thus formed at the crown of the hood and catch them together, to give the peaked crown.

Once more resume knitting. Cast on 12 or 15 stitches, according to the width desired for the neck-band, and knit in plain garter stitch until the strip is long enough for the neck. Sew to neck of hood, turning the work in such a way that the last row meets the end of the last row of the front, with the end of the last row of the neck-band at the lower edge. In sewing be sure not to stretch the neck out of shape, and have the neck-band short enough to make it sit close against the neck.

After the neck-band is sewed in place, turn, knit across the last row, across the front stitches held on the thread, then pick up and knit the stitches across the cast-on end of the neck band. On the stitches now on needle knit in plain garter stitch for two inches, bind off and fold back for the turn-over.

The sweater is made all in one piece, excepting for the sleeves. Begin along the left under-arm seam, casting on 55 stitches. If these stitches give too short a length, more may be added. Knit 4 rows (2 ribs), in plain garter stitch. The last row ends at what is the armhole. Now cast on 107 stitches at the end of the last row, or enough to reach up and around the armhole and down the back of the under-arm seam. Here, too, more stitches may be added if a little larger size is desired. With 162 stitches on the needle knit in plain garter stitch for 3 inches, or enough to just reach from the top point of the arm, up the shoulder to the neck. Let the last row end at the lower edge of the front of the sweater, that end at which the first rows were made.

Knitted hood for an infant

First Front Row—Turn and knit in garter stitch as usual to the stitch before the center of the row and run the remaining stitches onto a thread. On the stitches on the needle continue as follows: Turn, knit 2 together, then knit to lower front. Repeat these 2 rows 4 times, when 75 stitches will remain. Now change to the basket stitch pattern. Beginning at the lower front edge, purl 6, * knit 4, purl 8 and repeat from *, ending the row with purl 5.

Second Row—Knit 2 together, knit 3, * purl 4, knit 8 and repeat from *, ending the row with knit 6.

Third Row—Work like first row, but end with purl 4.

Fourth Row—Purl 2 together, then purl to the end of the row.

Fifth Row—Knit 4, purl 8 and repeat, ending the row with knit 1.

Sixth Row—Knit 2 together, knit 7, * purl 4, knit 8 and repeat from * to the end.

Seventh Row—Work like fifth row, but end with purl 8.

Eighth Row—Work like fourth row.

Repeat from the first row, always narrowing 1 stitch at the top of each row that begins there. Be careful that these narrowed stitches do not upset the pattern. When 16 rows in all have been knit in the basket pattern, knit 6 rows in garter stitch, narrowing at the neck as before, then bind off the 64 stitches that remain. This completes the left front.

The back is next to be knit. Take the stitches from the thread onto the needles again, and begin to work next to the end of the first row of the left front. Bind off the first 2 stitches, then knit plain to the end. Knit back and forth in plain garter stitch for 3 inches, or until enough short rows have been made to reach across the back of the neck, from the left shoulder to the right. Have the last row end at the neck and temporarily lay the work aside.

With another ball of yarn cast 64 stitches on the needles, for the center edge of the right front. Knit 6 rows, increasing 1 stitch at the end of the second and every second row thereafter. On the fifth row start the buttonholes by binding off 3 stitches 4 times down the front, and on the sixth row cast these stitches on again, to close the buttonholes. Now work 16 rows in the basket pattern as those for the left front were worked, always increasing 1 stitch at the end of every second row, and after the basket stitch rows work 10 rows more in garter stitch. This completes the center part of the right front, the last row ending at the top or neck.

Take up the work temporarily laid aside. At the end of the last row of this piece cast on 2 stitches, then knit across the last row of the right front. There should be 162 stitches on the needles. On these stitches knit a strip for the second shoulder like that knitted for the first, then bind off all but 55 stitches at the lower front end. On these 55 stitches knit 4 rows for the right under-arm section and bind off. Sew up the under-arm seams.

Begin the sleeve at the top. Cast on 52 stitches and knit in garter stitch for 6 inches or the length desired for the sleeve. Change to No. 16 steel knitting-needles and knit 1, purl 1, for two and one half inches, for the ribbed cuff. Bind off loosely. The second sleeve is made exactly like the first. They are sewed up and placed in the armholes before the crocheted borders are worked.

For the pockets cast on 22 stitches and knit in garter stitch for 3 inches and bind off.

Crochet the border across the top of the pockets, as follows: Use the contrasting color and a No. 2 bone crochet-hook, and make 1 single crochet in each stitch across one edge. Turn, and make a second row of single crochet, taking the stitches up on the double thread. Pull a loop of the white wool through the loop on needle, turn, chain 2, pick up a loop in the second stitch and a loop through the first stitch of preceding row. Pull the wool through 2 loops, then through 2 loops. For the second stitch pick up a loop at the side of the first stitch and a loop in the next stitch of preceding row. Work off the loops as before, then repeat the second stitch across the row, fastening off at the end.

For the fourth row return to the beginning of the third row, there picking up the contrasting color. Work 2 rows in single crochet as before and fasten off.

The same border is worked around the neck and the sleeves. In working the neck, narrow 1 stitch in beginning each row and in working the first row take care not to stretch the knitting out of shape. It should be held in, to give the proper fit. On the sleeves make 1 single crochet in each stitch on the edge, giving a border that makes the cuff flare in a pretty, babyish way.

The sweater is made of fourfold Germantown and takes about one quarter of a pound, with a small quantity of contrasting color No. 2 bone needles are the best to use. Threefold Saxony can be used equally well and makes a sweater rather lighter in weight, one that will wash better, perhaps, than a Germantown sweater. For an older child the directions may be carried out with Spanish yarn on No. 3 bone knitting-needles. This makes a strong garment for a rough-and-tumble child.

If a high-necked sweater seems more desirable, the fronts may be made straight, without decreasing at the top after the row has been narrowed to seventy-five stitches. For a sweater of this kind the stitches should be picked up around the neck with the No. 16 needles used for the cuffs and about two inches worked in one-and-one ribbing. Bind off and work the five border rows on the edge, skipping an occasional stitch of the knitting, sufficient to keep the collar from flaring.

Another manner in which the sweater may be changed is in the knitting, which may be entirely of garter stitch, omitting the basket stitch stripes. A sweater of this kind could have two stripes in contrasting color down each front toward the center, each stripe four rows (two ribs) wide.

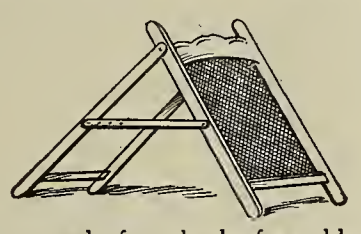
If it be considered preferable, the pockets of this sweater may be omitted, although as all know baby loves them, even at this very early age.

Child's sweater made in one piece, with exception of sleeves

The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of $2.00 for the best description (with rough sketch) of an original home-made household convenience or labor-saving device, and $1.00 for the third best or any that can be used. ¶ We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. ¶ All copy must be in by the tenth of February, and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copy, as no manuscripts, will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

Invalid bed prop—For those who are confined to the bed and yet can sit up for a few hours at a time, this bed prop is sure to prove a convenience. It is made from the back of an old cane-seated rocking-chair, and the illustration will give you a very good



Bed prop made from back of an old rocker

idea of just how it is made. The strap or chain in the middle of the prop, and which is attached to the back, makes it possible to adjust the prop to suit the patient or invalid.
R. B., Pennsylvania.

To keep butter-mold from cracking: A good way to prevent bowl part of butter-mold from cracking is to immerse in cold water, slowly bring to boiling-point and boil for an hour or two. Let cool gradually; or, better still, dip bowl in hot lard or grease.
Mrs. A. G., Oklahoma.

For molding butter—Many housekeepers who make their own butter sometimes have trouble in molding same, on account of the butter "sticking" to the mold. I think if they will try the following method, they will find it will save time and patience: Wash and scald mold, then cool in cold water. Take a piece of clean thin cloth and cut a round piece as large (or a little larger) in diameter as print of mold. Dip cloth in cold water and spread smoothly over print, covering edge. Press butter carefully. The cloth will come off with the butter, which will be molded perfectly smooth.
Mrs. A. G., Oklahoma.

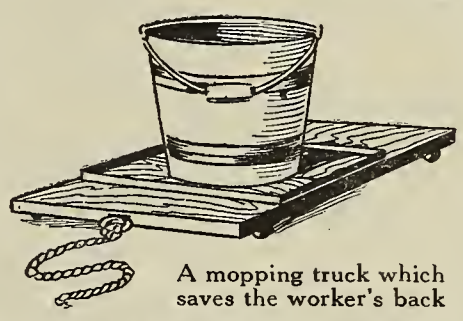
Improvised lunch-boxes—Instead of throwing away the empty cereal-boxes as I used to, I now save them for lunch-boxes for the children, and after cutting from the top about two inches, I slash each corner down about three inches, put in the lunch and fold over squarely all four corners of the box and tie with twine.
It makes a neat lunch-box.
Mrs. H. B. M., Connecticut.

For a felon on the finger use hot turpentine. Place a small quantity of turpentine in a small vessel and put on stove to heat. When warm, immerse finger in the turpentine, allowing it to remain several minutes until turpentine becomes hot as can be borne. Repeat twice a day for several days, when felon will begin to peel off. Of course, care should be taken while heating the turpentine, as it is explosive. Perhaps a safer way is to put the jar of turpentine in a pan of hot water.
M. L. S., Illinois.

This is the way I have removed blackberry and grape-juice stains from tablecloths, etc. As soon as the cloth is stained, plunge it in cold water. Let it remain a few minutes, then put it in lukewarm water, to which a small quantity of borax has been added, and rub the stains vigorously.
D. N., Indiana.

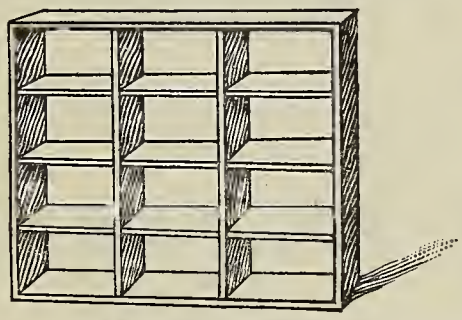
I make pillows for my living-room couch from blue or pink chambray with a ruffle of the same and decorate the tops with designs formed of rick-rack braids. Such pillows launder well. Mrs. V. H. S., New York.

A professional cleaner who has used many preparations and fluids, gives the following as his favorite: Shave up four ounces of a good quality pure white soap and dissolve in four ounces of boiling water. When cool add five ounces of ammonia, two and a half ounces of alcohol, two and a half ounces of glycerin and two and a half ounces of chloroform. This can be kept if corked tightly. For cleaning woolen goods use two tablespoonfuls to a pint of water. For cleaning carpets, rugs and all other heavy materials a stronger solution may be used.
M. B. G., Wisconsin.



A mopping truck which saves the worker's back

Fruit-shelves—The shelves shown below are made of boards about five inches wide and are one foot apart. The drawing really explains itself, and if the man of the house is handy with tools, he can easily make a set of these shelves for the busy housewife's cellar. The jars, which should be labeled, stand out very plainly on the shelves, so no time is lost in hunting for any particular variety.
Mrs. J. P. V., Oklahoma.



A set of shelves for holding canned goods

A home-made gargle for a sore throat is made in the following proportions:
One pint of hot water, one tablespoonful of salt and one tablespoonful of camphor.
This should be used as hot as possible.
L. B. R., New York.

When making sash curtains make a hem of equal width at top and bottom, and save the trouble of slipping rods through too small a groove. Occasionally change the curtains end to end and they will wear twice as long.
Mrs. V. H. S., New York.

If you want to shut off the view from any window, dissolve in a little hot water as much epsom salts as the water will absorb. While hot, paint this over the windows and when dry you will have a good imitation of ground glass.
M. W., Pennsylvania.

For the scrub-pail—This home-made device for holding a pail while mopping the kitchen floor has proved invaluable to me. It saves many backaches. It is made of a square piece of wood, with casters fastened on the bottom with a rope in front by which to pull it. Two pieces of an old box may be used, by nailing them together. It is well to place the pieces so that the grain of the wood will run in opposite directions. Then the wood will be less likely to warp. To keep the pail from slipping, thin strips of wood should be nailed on the "mopping truck" as shown in illustration.
Mrs. S. C. P., Massachusetts.

To insure straight edges on linens and damasks, draw a thread before cutting. Table-cloths cut this way can be folded evenly after being washed.

Good loops can be made by cutting strips from an old kid glove, rolling in each a piece of coarse string, then sewing the edges of the kid neatly together.

Cranberries can be made very palatable with much less sugar by mixing them with about half their bulk of apples. Rub both cranberries and apples through a colander.

To clean hair-brushes—Do not wash them with soap. Put a teaspoonful of hartshorn into the water, which should be lukewarm, and dip the brush up and down until it is clean. Let dry with the bristles downward and the brush will be as good as new. If you do not happen to have any hartshorn, use a teaspoonful of soda. It will do just as well.
Mrs. E. S. B., Virginia.

The Housewife's Letter-Box

Have you been looking for a special recipe for years? Do you need any information on household matters? And do you meet with little problems in the home that you wish some one would solve for you—some one who has had a little more experience than you? Then, why not make use of YOUR OWN department and ask the questions which have been troubling you? This department has proved that the spirit of helpfulness is abroad in the land, especially among the women of the farm. That our readers have the mutual desire to help one another is evidenced by the large and prompt response we have had to the questions which are printed here monthly. There is no payment made for contributions to these columns. All answers and inquiries should be addressed to "The Housewife's Letter-Box," care of Farm and Fireside, Springfield, Ohio.

Questions Asked

Will some one please tell me—

How to make a pound cake? Also, the quilt pattern called "Corn and Beans?"
Mrs. C. A. D., Tennessee.

How to keep house plants in the winter-time?
Mrs. M. C. S., New York.

How to can home-made sauerkraut?
A Subscriber, Nebraska.

How to keep my cider sweet?
Mrs. M. H., Connecticut.

How to make good home-made cheese? I want to make some, but have never been able to get a recipe.
S. W. Z., Georgia.

How to make sauce without milk to serve over a baked pudding? I think it is made with water, flour and sugar.
Mrs. M. M. J., Ohio.

Will some one please send me patch quilt designs of the state of Nebraska?
M. K., Nebraska.

Can some one please send me the recipe called "New Year's Cake" which was printed four or five years ago in Farm and Fireside?
Miss F. F., Kansas.

Questions Answered

To can mushrooms, for Mrs. M. A. B., Pennsylvania—Select perfectly clean mushrooms. Peel and stem them. Pack in jars and when jar is full sprinkle over the mushrooms a teaspoonful of salt. Shake it so that the salt will fall to the bottom of the jar. Adjust the rubbers, lay on the lids, stand jars on a rack in the boiler, in which there is enough cold water to come nearly to the top of the jars. Cover boiler, bring water to boiling-point and boil for one hour. Lift jars from rack, take off the lids and throw them into a pan of boiling water. In case jars are not quite full, use contents of one jar to fill the others until they overflow. Then quickly put on lids and fasten securely. Stand the jars on the rack in the boiler, add sufficient boiling water to cover the tops of the jars thoroughly and boil for thirty minutes.
Mrs. H., Massachusetts.

Tomato-catchup, for Mrs. W. B. M., New York—One gallon of tomatoes stewed and strained, one cupful of sugar, one quart of cider-vinegar, four tablespoonfuls of salt, three tablespoonfuls of mustard, two tablespoonfuls of black pepper and one fourth of a teaspoonful of cayenne. Boil down one half, then bottle.
Mrs. S. K., Mississippi.

Core and slice one half bushel of tomatoes. Place a layer of tomatoes in a jar, sprinkle lightly with salt, add a small handful of peach-leaves and a few slices of garlic. Repeat until you have used all of the tomatoes. Let stand twenty-four hours, run through a colander, being careful to remove all peach-leaves first. Chop fine six onions and four red peppers, put in cheese-cloth sack with two tablespoonfuls of mixed spices. Cook slowly two hours and add one cupful of cider-vinegar and one cupful of sugar. It should cook slowly four or five hours. Test a little in a glass. When no liquid rises to the top after standing a few minutes, it is done. Bottle and seal. If properly made this catchup will not spoil when opened in warm weather.
M. C. M., Indiana.

Sweet pickles, for Mrs. L. W., New York—Seven pounds of pickles, three and one half pounds of sugar, one pint of vinegar, one ounce each of cinnamon, mace and cloves. Put the pickles in jar, boil vinegar and spices together, pour it over the pickles and let it stand two days; then pour the vinegar off again. Put it on to boil and when hot pour in the pickles and boil all together till clear and transparent.
Mrs. S. K., Mississippi.

Here is another recipe for sweet cucumber pickles that have been put down in brine. Soak the pickles out well. Put one teaspoonful of ground cinnamon in a cheese-cloth bag and boil it up in enough vinegar to cover pickles. Pour vinegar over pickles and let stand two or three days. Then pour vinegar off and put in one half cupful of sugar. Let it come to a boil and pour over pickles again. Let it stand a day or so and then repeat, pouring vinegar over them until they are sweet enough.
Mrs. G. M., New York.

If Miss M. M. B., Kentucky, will try the following recipe for making caramel filling, she will have no trouble with it:
Two cupfuls of dark brown sugar, one heaping tablespoonful of flour. Mix dry, add one half cupful of sweet cream, cook until it will lump when dropped in cold water. Remove from stove, flavor with vanilla, beat until partly cool, when it will spread without running off.
M. C. M., Indiana.

Here is another recipe for caramel filling: One cupful of sugar, one half cupful of new cream (old will curdle), one tablespoonful of butter, one teaspoonful of vanilla, one teaspoonful of vinegar.
Mrs. C. Y. G., Tennessee.

For Mrs. W. S., Ohio—Buy some oil of sassafras and drop a little of it around in your kitchen cabinet, where the red ants abound. You will be surprised to see how quickly they disappear. I got rid of ants by using the oil, so I am speaking from experience.
S. E., South Dakota.

Gives Breakfast Zest and Relish

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A sweet, crisp, wholesome food made of Indian Corn, ready to serve right from the box with cream and sugar.

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Six Silver Teaspoons

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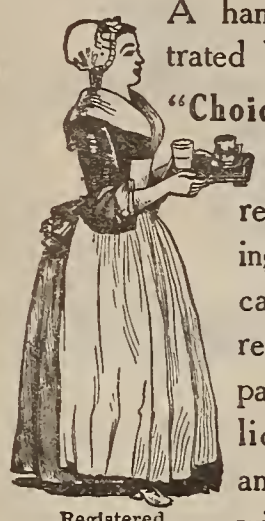

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A Little Talk to Girls

By Haryot Holt Dey

Some girls love to suffer. Amy does. I did when I was a girl. So many girls think they are martyrs.

The advantage about martyrdom is that you get into the limelight, and then everybody—or all but a few—sympathizes with you. Nearly all girls pass through this stage, and it does no particular harm unless it comes to stay; unless martyrdom refuses to pass. It is dangerous in the event of its coming late, for it is likely to stamp a girl with unpopularity with herself and persuade her to do and say many things that had better be left unsaid and undone. It is better to be a strenuous protester than a martyr, for the reason that in the former instance people learn where to place you, and also just where to find you.

Amy has big eyes, soulful, like a fawn, and she has an appealing little face almost like a decorated Easter egg. Amy is past twenty and she is good to look at. She is never very happy. There is always some reason for her unhappiness, and an acquaintance with Amy has forced upon me the conviction that she looks for things to be unhappy about. After inventorying the advantages which have accrued to Amy, I cannot see that she has reason to be unhappy, although things may not be entirely to her liking, as is often the case when there is a step-mother. It is my observation that everybody has something which classifies with thorns. And yet not everybody—not quite all of us—will permit the thorn to make us unhappy, spoil our days and ruin our dispositions. I am also about to state that as a rule the people who feel sorry for themselves, look sad in the glass, cry in secret and appear with eyes and nose all stained red are selfish.

The Girl With a Temper

Now if a girl loses her temper once in a while, creates a scene, stamps her foot and claws the air, even slams a couple of doors, why, the folks in a way know exactly how she feels and, since there is always the prospect of another day when her mood is likely to be less tragic and more comfortable, no one feels unduly alarmed. But with a girl like Amy there is absolutely no chance for anybody. An assault on her silence seems to be uncalled for. She isn't saying a word nor doing anything except thinking thoughts. She isn't finding fault nor disapproving. Maybe she is only keeping things to herself. She wouldn't even show you her new hat and tell you how much she liked it, for fear of being caught in the act of feeling glad about something. She wouldn't tell you about an invitation she has to a party next week. Can you picture Amy? Perhaps you know her and perhaps you may like to send her a marked copy of this.

The Selfish Girl

I am right here to tell Amy that she is a selfish, ungrateful girl; that she thinks about herself all the while when she might be thinking of some one else who needs sympathy and love.

I know something about martyrs, for the simple and sufficient reason that I once was a martyr myself. People who suffer for imaginary causes generally have a real reason for suffering before they get through.

I remember once, when I was a little girl, I was told to take the shears and cut the grass that was growing close to the fence—grass which the lawn-mower could not touch. Now the time was afternoon on a day when all my young friends were going to the circus. Being the kind of a child that likes to suffer, I decided that it was more effective for me to remain at home with a very heavy heart and crawl around the yard cutting stupid grass with the scissors while I watered it with my tears (because I was such an abused lamb), than for me to protest vigorously, denounce the injustice of it all in a loud voice and then afterward win the consent of the powers to go to the circus, together with the price of a ticket.

As my young friends passed by on their way to the circus, I was seen on my knees at my task.

They discovered me and said: "Come on!"

"I have to remain at home to cut this grass with the scissors," I said, and wept copiously.

Here was evidence of the cruelty of my foster-parents. Here was positive proof. And as my youthful companions proceeded on their way to the circus, they chattered in denunciation of the outrage. The event was regarded as tragic in the extreme, and made a deep and lasting impression upon my sympathizing friends.

The Result of Martyrdom

One time forty years afterward it was repeated to me as proof that I was abused by the very kind relatives who had assumed the responsibility of my rearing and maintenance. The absolute injustice of it all impressed me profoundly forty years after, and be it said here in defense of myself that I then explained that the dear people—long since gone to rest—never even knew that I wanted to go to the circus. So the injustice, instead of being visited upon me, was in reality visited upon them who in no wise deserved it.

"I was a more strenuous martyr than that," said a bright woman with a merry voice, when we were speaking of this proclivity in young girls. "My mother used to shut me up in the closet sometimes when I was naughty. It was a very shallow closet and there was only room for me to stand up among the dresses and clothing that hung there. As I stood there in disgrace I used to pray fervently that I might be struck dead instantly, so that when my mother opened the door she would find me stiff, stark and dead with staring eyes. This was in order that my mother should be punished for persecuting me. It was to teach my mother a lesson. Then everyone would talk about me, and feel sorry for me, and there would be a funeral with flowers, and everyone in black, and crying. Then I delighted to persuade myself that I was quite dead, and once my mother had to shake me because I stared so hard and behaved so queerly. How surprised she would have been had she known that I was playing at being a dead martyr! A dead martyr always has a greater value than a live one, and young as I was, I understood this. I was anxious to prove my idea."

To My Beloved

There are no words so sweet and fair
As those that I would call thee;
There is no perfume half so rare
To match the soft scent of thine hair,
That like the fragrance of the air
In May days does enthrall me.

There are no colors such as those
That through thy cheeks are flowing;
They put to shame the love-red rose
That in some Southern garden grows,
Or soft tints of eternal snows
In dawn's embraces glowing.

There is no music of the spheres,
Of harps and sweet bells ringing,
Would soothe my soul with gladder tears
Or thrill with deeper joys my ears
Through all the long declining years
Than thy voice softly singing.

There is no sky of deeper blue
Than where thine eyes are smiling,
No land of dreams that poets knew,
Where summer winds ne'er changing blew,
And never-fading flowers grew,
Could e'er be more beguiling.

There is no heart as true as thine
But that within me beating,
Which constant as the ivy vine
Shall worship at thy beauty's shrine,
The wrinkles and the furrows line
Of greedy age defeating.

—Edward D. Tittmann, in Smith's Magazine.

The "Misunderstood" Girl

This idea of martyrdom is an abnormal, selfish, self-centered, hysterical demand for sympathy. For example, Amy probably thinks she isn't loved. There is one peculiar and interesting thing about love—namely, that it is divine reflection. Whoever reflects love receives love in return. This is according to the law. "Love is the fulfilling of the law."

Love is only to be obtained through loving, and it really isn't half so important about who loves you and how they show it, as whom you love and how you make them understand it. This sounds exactly like preaching; and when one is old it is natural to preach. I can hear Amy think it as she reads this.

Let's figure on this and see how it works out!

This is not to decry the value of martyrs. Far from it. But real martyrs, like Joan of Arc and a few others, were martyrs for the sake of a principle, and not from any personal motive. When a real martyr burns at the stake, it is not for personal distinction and aggrandizement, nor is it because they feel sorry for themselves. It is because they have the courage to stand for an idea. It is not to make others unhappy, but to glorify an idea.

An imitation martyr is like other imitations, intolerable. I don't seem to know just what specific there is for this abnormal tendency to be a martyr, as manifested now and then in a young girl. It is presumably self-pity. Now, believe me! There is nothing that will disarm and undermine all the forces of character sooner and more effectually than self-pity. And as for sympathy? Pooh! Who wants sympathy? Certainly no good soldier.

We are placed here in this world presumably to help one another. You say you are misunderstood? Certainly, we are all misunderstood. But the girl who is least understood by others, understands herself least. How can others understand her when she doesn't understand herself? Besides, this is a busy world we are living in. Everyone is busy with the work that has to be done, and few of us have time to stop and interpret the meaning of the emotions evinced by martyrs, whether the martyr is sixteen or sixty.

The Sympathy-Broker

In nearly every neighborhood there is a sympathy-broker to whom you can go to syndicate your sorrows. I have never found that a sympathy-broker ever gives anything that can be exchanged for anything else. There is the momentary unction to your soul of hearing some one, in whose ear you have poured your tale of woe, agree with you in your notion that you are abused. They will usually point out to you features of injustice which have escaped your notice; and thus your case seems stronger after talking with them than it did before. If you had any doubt about your being the greatest sufferer from wrongs of any one around, these doubts are dispelled by the sympathy-broker.

But what does this sympathy-broker get for you? How does the experience benefit you? Does it make you stronger, better poised, kinder, gentler or more hopeful? I leave it to you to decide what it does. As a rule, when you pour out your tale of woe, you are unfaithful to some one. You have forfeited your loyalty. Sympathy-brokers always have plenty of time to listen. They will neglect the dusting and the teacups to condole with you. They sigh and look sad, and you go home red-eyed and hopeless, weary of an unsatisfactory world.

But a great many people find the world unsatisfactory. You are not the first one. Possibly if we found this plane of consciousness too happy and satisfactory, we should be loath to leave it for a better one. But it is a positive fact that the people who find the world the most to their liking are the busiest people.

There is considerable misapprehension in regard to work. Many of us long for money with which to buy leisure in which to enjoy ourselves. This is a wholesome idea. But no idle person is happy. Of course, it's pleasant to be able to choose one's work. For those of us who cannot there is often a certain mental attitude toward work which is in the nature of rebellion. We may feel sorry for ourselves because we have to work. Right here you get the martyr spirit. Then again it may be that you hate your step-mother. But your father likes her. Here comes in loyalty to your father. You may hate your step-father. But your mother likes him. He may have his good points. Anyway, your attitude should be loyalty. That's all that's expected of you.

The answer to the problem of Amy's martyrdom has two words in it. They are loyalty and work.

Now it is for Amy to prove it!

Poor Relations

[CONTINUED FROM PAGE 20]

believe her name is Penelope, too. Our families haven't come into contact for ages. Not very exciting, is it?" She smiled bewitchingly and went on, "Now we have something more interesting to talk about, haven't we, dear?" She gazed at him a little anxiously, then, as all curiosity faded out of his face and he took her nearest hand, she relaxed into languor and soon suggested their returning to the drawing-room.

Just as they were entering the green room, Mrs. Martin rushed up to them, crying, "Oh, Penelope, some of my jewels have been stolen! Some rings and a diamond heart. Marie went to my case to get out the pieces I wanted for to-night and she discovered it had been disarranged and some pieces were missing! Who could have taken them?"

Excited questioning and inquiries were soon supplemented by searching as the police came on the scene—but evening came with no further developments. Whoever the thief was he or she had covered all traces. The jewels were gone to play their part in the Martin family history.

Chapter XII.

MARION'S duties on the *Morning Chronicle* were not very arduous, and the sunny girl soon grew accustomed to her niche in the working fraternity.

Ever since her enrollment among his employees, Mr. Hastings had called her to his office about twice a week and together they discussed her work in the most cordial and friendly manner.

The office force saw nothing unusual in this as it was their editor's policy to keep constantly in touch with the personnel of his paper. However, John Hastings knew that his interest was extraordinary. Often he wondered why he so enjoyed these semi-weekly interviews; and as often he decided that it must be because of his fondness for Guy Haynes. He had stood sponsor for Miss Martin, and the inexperienced girl surely needed help and advice if she was to succeed in the newspaper world. With such an explanation of his motives the man satisfied himself and kept on in his rôle of mentor.

As for Marion, she scarcely knew her own feelings for five minutes at a time. Her admiration for John Hastings had grown into a kind of hero-worship. To her, he was the greatest of modern men. Always in the background of her thoughts, when in his presence, lurked the questions, "How could such a man marry Penelope Martin? What would he say if he knew who she was? How much longer could she keep her secret?" Ever since Penelope's announcement cards had gone out she had dreaded some revelations, but four or five days passed and nothing happened and Marion began to believe that affairs might drift indefinitely.

However, at the end of the month came an occurrence which put an end to their professional interviews and lifted them out of the relation of employer and employed into the rôles of man and woman.

Early one Wednesday afternoon Marion went to Mr. Hastings' office as usual. For a brief hour they discussed her work, when suddenly a crackling noise startled them both. The girl glanced swiftly about, then with a quick frightened cry she sprang to the center of the room where Hastings was standing and, putting her hands on his arms, pushed him aside, crying, "Move! Quick!" just as the huge electric fixture which hung above him fell to the floor with a crash, throwing up a spray of flying glass.

In a moment the office was full of people, and for fifteen minutes excited men, women and boys talked loudly of "the criminal carelessness" of contractors and shook hands heartily with their beloved editor-in-chief.

As for Marion, when Mr. Hastings told of her quick move, except for which he might have been beyond tale-telling, she became the heroine of the minute. A chorus of praise was lavished on her in the solemn manner which falls upon men when the shadow of sudden death creeps into their midst. Everyone was sober, when suddenly a small boy, overcome by his enthusiasm, piped out, "What's de matter wid Miss Martin? She's all right!" Then quick laughter drove away sobriety and in a few moments the office cleared.

Marion had stood quite still, pale and trembling, during all the hand-shaking and congratulations, and finally, when no one was left but the tall grave man whose life she had in all probability saved, her courage gave out and quick sharp sobs shook her from head to foot.

"Why, Miss Martin," Hastings cried in alarm, "you were not hurt, were you?"

"No, but just think, you might have been killed! I can't bear to think of it!" There was agony in her voice.

"I—I have no way of thanking you," he murmured, tenderness in the words. "I shall always feel that I owe my life to you—it was a brave thing to do—to rush to the dangerous spot. You might have been—injured!" He could not bring himself to say killed, and even at the thought of it a nervous shiver shook him.

The girl sank into one of the big chairs and looked at him queerly. Suddenly their eyes met, and, moved by an irresistible impulse, the man took a step toward her—then another, when abruptly she seemed to recall herself and with a quick motion rose to her feet.

"I must go," she almost whispered, her breath coming fast.

"Let me, at least, say 'Thank you.'" He held out his hand. Slowly, almost reluctantly, Marion placed hers in it; and they stood so in silence for a second, each strangely stirred by this bond between them. Then the girl hurried to the door, and with a little nod and smile, vanished.

Hastings stared after her for several minutes; and only after walking up and down his office innumerable times could he settle down to work; even then, however, his editorial writing was disturbed from time to time as he vainly tried to picture what Penelope would have done under the same circumstances.

[CONTINUED IN NEXT ISSUE]

For the Writer's Desk

By Elma Iona Locke

THE following recipes are offered to the scribbler, who also delights to dabble in chemicals, as a help to him in furnishing his desk with some of the little aids so helpful in the plying of his trade.

An economical black ink—Add a little iron filings to a bottle of rain-water, expose it to the sun for some time, until dissolved. The ink is pale when first used, but soon becomes very black, and never fades.

Copying and recording ink—Put into a quart bottle one and one half ounces of bruised galls, coarsely powdered; add six drams of green copperas, ten drams of gum arabic and one pint of rain-water. Cork securely and set the bottle in the sun, shaking it occasionally. It should be fit for use in about six weeks.

Violet ink—Dissolve one ounce of best violet aniline in one gill of hot alcohol, stirring until thoroughly dissolved, then add one gallon of boiling-hot water, first dissolving one and one half ounces of white gum arabic in the hot water. This makes a rich and beautiful ink, which will not fade or corrode steel pens and is not injured by freezing. An addition of one pound of white sugar and one half pound of glycerin will make an excellent copying ink.

Red ruling ink—Take an ounce vial and put into it one teaspoonful of aqua ammonia, gum arabic the size of two peas, six grains of No. 40 carmine, five grains of No. 6 or 8 carmine and fill the vial with soft water. It is soon ready for use.

White ink—This ink is useful in writing upon dark-colored paper. Mix one half ounce of powdered flake white and one dram of powdered gum arabic with distilled water sufficient to make it of the consistency of ink.

To keep ink from molding—It is said that a few cloves added to a bottle of ink will prevent its molding and also give it an agreeable perfume.

To restore faded writing—When writing has faded, moisten the paper with water and then brush it over with a solution of sulphydric ammonia. Or, boil galls in wine and sponge over the surface with the solution.

Liquid ink eraser—To one quart of soft water add one fourth of a pound of chlorid of lime. After shaking it thoroughly let it stand for twenty-four hours. Then strain through a cotton cloth and add one teaspoonful of acetic acid to every ounce of the chlorid-of-lime water. Apply the solution, without rubbing, to the word to be erased, and when the ink has disappeared take up the remaining fluid with a blotter.

Removing stains from books—To remove ink-stains from a book, a solution of oxalic acid is said to remove them without injuring the print.

The fumes of a brimstone match removes fruit-stains from books, papers or engravings.

Mucilage—What is claimed to be postage-stamp mucilage is made with two parts of dextrine, one part of acetic acid, five parts of water, dissolved by heat, then one part of alcohol added.

A convenient pen-holder—A handful of beads, one eight to one quarter of an inch in diameter, in the bottom of some little squat round-mouthed vase will make an excellent pen-holder and cleaner. It will take the place of the old-fashioned pen-holder that was filled with shot, and it will be cleaner. It will be particularly appropriate in a room where it is desired to keep everything as old-fashioned as possible.

It occurs to me also that such a holder would be most appropriate for many other sorts of things as well. Large-sized glass beads would be fine in the bottom of a glass vase for flowers, helping to keep the stems of the flowers in place, especially if flowers are scarce, and also helping to keep a slender vase from tipping; they can be of clear glass and will be invisible when the vase is filled with water.

Our 33d Anniversary

Farm and Fireside will celebrate the completion of a third of a century of successful publication with the

January 25th Number

FOR THIRTY-THREE YEARS FARM AND FIRESIDE has been the farmer's friend. It has grown from a small paper, with only a few thousand readers, to a great institution, with nearly half a million subscribers, representing every state, and almost every county in the Union. Thousands of readers who subscribed to FARM AND FIRESIDE a quarter of a century ago or more, are still devoted subscribers. FARM AND FIRESIDE has been the first farm paper to meet the new 20th Century conditions of the American farmer, and over a year ago made many improvements. It established a handsome cover in colors for each issue, it improved the quality of the paper on which the journal is printed; it obtained the services of its present distinguished editor, Herbert Quick; it established a lobby at Congress in Washington for the benefit of the farmers of America, and made many other editorial improvements, at a cost which has already amounted to over one hundred thousand dollars. Needless to say, FARM AND FIRESIDE readers have enthusiastically received these great and costly improvements and have spread the praises of FARM AND FIRESIDE among their friends, who in turn have become loyal and satisfied readers of the National Farm Paper.

Read About These Features

The History of Farm and Fireside

One feature of the January 25th number, which will delight every reader, will be a brief history of FARM AND FIRESIDE, from the time of its first issue until the present time, showing the enormous improvements that have been accomplished in FARM AND FIRESIDE and in American publishing generally within the past 33 years.

An Absorbing and Thrilling Story

Complete in the January 25th number, will be a story entitled "An Experiment in Match-Making," by the famous author Winifred Kirkland. The story is handsomely illustrated, and throbs with interest from beginning to end. Every reader of FARM AND FIRESIDE will be delighted with this great story.

An Anniversary Puzzle

Sam Loyd, the Puzzle King of the World, has created a special anniversary puzzle for the January 25th number of FARM AND FIRESIDE, which will be intensely interesting to every FARM AND FIRESIDE reader. The FARM AND FIRESIDE Anniversary Puzzle is one of the greatest puzzles ever created by the maker of "Pigs in Clover," "Parcheesi" and other famous puzzles.

When Eggs are Scarce

Among the important articles in the January 25th Anniversary FARM AND FIRESIDE will be an article entitled "When Eggs are Scarce," which will prove of intense interest to every woman reader of the paper.

St. Valentine's Day

All kinds of suggestions for St. Valentine's Day parties, decorations, games and refreshments, including many clever ideas for making home-made Valentines, will be a feature of the January 25th number.

The Agate Box

A story of love and mystery by Paul Crissey, will be an important feature of the Anniversary Number.

We want every FARM AND FIRESIDE reader to be sure and read the great January 25th Anniversary Number of FARM AND FIRESIDE, which will be followed by many other valuable and interesting numbers throughout the year. Two issues every month, brimful of farm news and home information, pictures and stories.

See Special Offer on Page 25

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Read These Letters of Praise

Harman Grinder Recommended by Government Officials

Supt. of Indian School Adds His Praise to That of Theusands of Farmers All Over the Country

Department of the Interior, U. S. Indian Service, Wahpeton Indian School, Wahpeton, N. D.

HARMAN SUPPLY CO., Chicago.

Sirs: The tool grinder shipped to this school has given good satisfaction and appears to be as guaranteed by you. I am enclosing photograph of the school and buildings, and you may use same and recommendation as you desire. Very respectfully,

W. O. RANDOLPH,
Supt. and Spl. Disb. Agent.

Government recommendation means something. *The Harman Grinder was first tested carefully, approved and purchased. Now, after it has been used and proved its worth in hard everyday grinding and polishing and has been approved by officials who are slow to praise unless they KNOW—don't you think that you should at least TRY this grinder when you can do so at no expense to yourself and no risk? The grinder MUST make good to your entire satisfaction or we want you to send it back. Write for the grinder today and see how much money it will save on YOUR farm.*

Most Useful Machine on Farm

I must say the grinder is far ahead of anything I expected it to be. No more hand power grindstones for me. When I want to sharpen anything I go and do it without chasing up the second party to turn the stone. Not being used to sharp tools, three of my family have slight mementos on their fingers and I touched myself slightly this afternoon. My boy calls it "Pop's" bicycle. Very true that statement that you can use it 365 days a year. I gummed a cross-cut, sharpened some knives and a hatchet. I am satisfied that it is the most useful tool or equal to any tool the farmer or anybody else has on his place.

C. J. DOYLE.
Orchard Farm, Westfield, Mass.

If Farmers Knew, All Would Buy

I don't think any farmer would be without one of your grinders on his farm after he has an opportunity to try one. I think it is the best machine of the kind I ever saw. The Hone that I received with my machine is the best stone I ever used, and I have used a great many different kinds. I have tried nearly everything that needs sharpening on a farm on this grinder and it has proven satisfactory in every case.

EMRY BUNNELL,
R. R. No. 1, Nevada, Ohio.

Beats Anything I Ever Saw

Your Grinder is just what every man that has tools to grind should have. I am well satisfied with the grinder. It beats any grinder I ever saw or used. Enclosed find check to pay for grinder.

EBER DEPON,
R. F. D. No. 3, Ossian, Ia.

Seven Days Enough to Prove Worth

I have had the grinder just seven days and that is enough to show me that it is more than you say it is, and I have tried it on everything that I could, and it beats the old grindstone all hollow, and I think you will make more sales around here, as there has been quite a few of my neighbors who have seen my grinder work. BERT LEWIS,
Box 29, Larchwood, Iowa.

Would Not Take Twice Price

After ten days' free trial with your Grinder I can say that I am well pleased with it and would not take more than twice the price for it if I could not get another like it. V. V. MAXSON,
West Point, Miss.

Another Man Who Knows a Good Grinder

I received your Grinder the 15th and have given it a thorough test. It is much better than I expected, which is enough to say I am well pleased with it. I would not sell it for double the cost and do without one. R. B. COLEMAN,
Berryville, Va.

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Remember, Ten Days' FREE Trial!

Send the Coupon Today and get our Grinding Tool Catalog FREE! Also our free booklet explaining all about Alectride, the newest and most wonderful substance known.

Don't wait a minute. Send the free coupon today and post yourself on this wonderful offer. Learn all about the Harman Special Alectride Farm Tool Grinder. Sharpen every dull tool on your place positively free. **We let you keep the machine for ten days, and then if you wish, send it back at our expense.** But mail the coupon today and get our free booklets and circulars, and get our FREE trial request blank. There is no obligation. You will be amazed at the wonderful results you will get from using Alectride. Anything you sharpen is sharpened better and quicker. Send for our free booklets today. Let us tell you what Alectride is and what it will do with every tool on your farm. Get our free booklets and our special limited offer. Remember, 10 days' free trial. **Send free coupon NOW.**

HARMAN SUPPLY CO., 160 Harrison St. Dept. 3531 CHICAGO

HARMAN SUPPLY CO.,
Dept. 3531, 160 Harrison St., Chicago, Ill.

Without any obligations on me please send me FREE your catalog explaining your Alectride Special Farm Tool Grinder, also full particulars of your ten days' FREE Trial Offer, also the interesting story of Alectride.

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Western Edition

FARM AND FIRESIDE

THE NATIONAL FARM PAPER

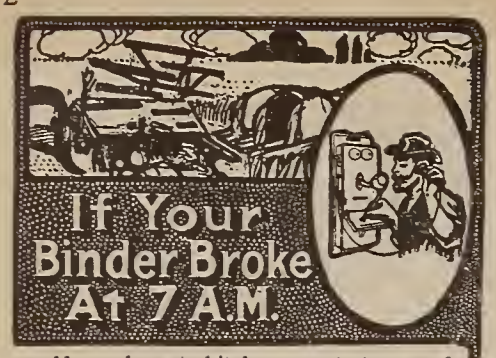
ESTABLISHED
1877

JANUARY 25
1911

1877 1911

C. F. Vaughn

Special Anniversary Subscription Offers on Pages 32 and 33



would you have to hitch up—go to town and take a *chance* on the dealer having the part in stock? Or would you call up on the telephone—make *sure* the part is there—and have it back in time for a fair day's work?

That's just a *suggestion* of the *immense* value to you—of a telephone. Think how many hard trips—how much work, time and money you will save with a

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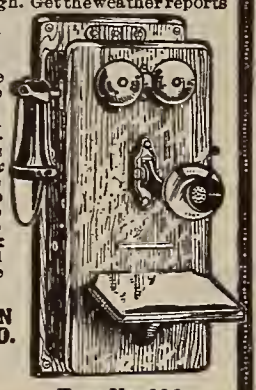
Call up for latest market reports—sell when prices are high. Get the weather reports and plan accordingly. At night—after work—call up your neighbors for a little chat. And in case of emergency — the telephone is always ready. Let us send you definite information and particulars about our *money-back guarantee*. Our Free Book — "How the Telephone Helps the Farmer"—should be in your hands. Ask for Edition 33 and address nearest office *NOW*.



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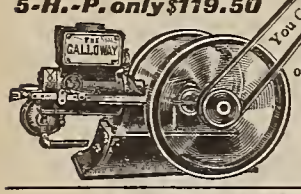

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WELL DRILLING MACHINERY in America. We have been making it for over 20 years. Do not buy until you see our new Illustrated Catalogue No. 15. Send for it now. It is **FREE.**

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We will send our powerful Simple Simon Gasoline Farm Engine to one farmer in every community on 30 days' **FREE TRIAL** at our **Special Introductory Price.** Remember, but one farmer in every community. You must act quickly.

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Armstrong-Quam Mfg. Co.
2136 Chestnut Street
Waterloo, Iowa
(Established 1867)

With the Editor

A third of a century ago Farm and Fireside was born.

It was a small baby, and as is generally the case, nobody could tell what it might come to.

Nobody thought that it would ever be the giant that it now is; that it would live to be the friend of such a myriad of families; that it would grow to be the counselor and aid of so many farmers and stock-raisers; that the end of its first third of a century would find it not only alive, but growing faster than ever.

Things have changed for all of us in thirty-three years. The editor was then—the autumn of 1877—a gangling boy plowing wheat-stubble in Iowa—for another crop of wheat. The central part of the state was half prairie—the western part nearly all unplowed. The times were hard; for the Mississippi Valley was yielding such tremendous crops of cereals that the world was not able to buy them. Lands in the Middle West were unsalable, and thousands of farms were lost to the mortgagees.

Things have changed in Iowa. The era of spring wheat passed, corn and clover came in with swine and cattle, rotations cheered the soil, the world caught up with the yield of cereals, and we are now coming in Iowa into another era of wheat—winter wheat—not as a sole crop, but as a part of a rotation. The farmers then rode in lumber-wagons, and the man with a good spring seat was proud of it. He feels now that he really must plan to get an auto, at least when the second silo is finished, and the new house is up.

Some change, this, in a third of a century?

And the fine thing about it is that while some good and pleasant things have passed out with the years, never to be seen again, most of the changes have been in the direction of a better and happier rural life.

In the South the war still hung over the land like a cloud left by a conflagration. The plantations were being deserted as the planters moved into the towns. The fields were left to the negroes, and it looked as if the future of this fairest of lands was to be solely one of a city population of one race, operating, by absentee landlordism, lands worked by tenants of another race.

In the South this third of a century has worked more wonders than in the North. The intensity of belief and the capacity for enthusiasm which has always characterized the Southern people has for years been gathering strength in a new revival of agriculture. The North has felt rather pitiful about Southern farming—forgetful of the fact that the South has been skilful enough to make a stupendous success of a crop that is a failure almost everywhere else—cotton. But now the New South is invading the North's peculiar field—mixed farming. In the agricultural race, the North may be ahead, but the South is going fastest.

And we have learned that the misunderstandings that persisted thirty-three years ago were errors on both sides. The sensible Northerner in the South loves to think that the people among whom he lives are true to the memories of their fathers who fought under Lee and died for the Lost Cause. Of course, they are proud of their Confederate history. Of course, they of the North are proud of their Federal history. All question of right and wrong is ended. Perhaps the greatest triumph of this third of a century has been the greatness of spirit which has enabled us as a nation to drop out of our hearts the enmities of our warfare, while cherishing its memories.

And the East has passed through a change in thirty-three years only a little less startling than that which has come to the South. Farming in the East suffered the same blight that struck the South, during those years when the prairies opened their rich furrows to the steel plow, and the harvests of the West fell before the harvesting-machine. The farms of the East "went back." I remember how wonderful it once seemed to me that the old farm of my grandfather in Tompkins County, New York, was worth a hundred dollars an acre. My father said that Iowa land would never bring that much—never! But since that time of fall-plowing for wheat, and while Farm and Fireside has been making its eight hundred visits to its readers, the Tompkins County lands went gradually down—or at least land did over much of the East. Now I could buy two acres almost anywhere in the strictly farming sections of the East for the price of one of those which I plowed in 1877.

Does any one imagine that while the East has been going through this gigantic liquidation there was any fun in it for the farmers? Nay, verily! There has been suffering and sorrow and loss. But the East is past the anguish, as is the South. I see scattered here and there about New England farms which show the revival of agriculture, along new lines, and the stiffening of the spirits of her farmers along all lines. The day of decadence is over, for East and South.

The Pacific Coast already had its old agriculture when Farm and Fireside began its career. There were irrigation blocks in the Southwest, too. Before the East ever heard of alfalfa they were growing it in New Mexico, Arizona and California; and ere the East knew of irrigation save as a mere name, thousands of people there were living by it. But in this third of a century the Pacific Coast has sent all over the continent the great running-mate of corn, the best of the legumes, and irrigation has become a gigantic thing, the occasion of a new farm life among Anglo-Saxons. Meanwhile, the Pacific Coast, after a generation of struggle for justice in transportation, is gradually winning her way into view of her goal. The regulation of railways and the building of the Panama Canal are the twin stars of her hope; and their influence will complete the circle that binds the whole great continent into one immense Association of Hope.

To be sure there are problems. It is hard for the man without capital to get land—harder than it used to be. And this is perhaps the only respect in which we are not better off than a third of a century ago. This the future must consider. We may not see a way out, but a way will no doubt be found in the future whereby idle hands and idle lands will not exist at the same time in the same nation. Then, too, we have taken from our lands since then a part of their fertility. But we know better than then what we should do to put it back, and we are learning every day.

The order of the next third of a century is Hope with Knowledge. That is the watchword for this nation, and it is the watchword of Farm and Fireside. Hope with Knowledge—so long as we have the latter, the former is ours of right!

Herbert Quick

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WESTERN EDITION

ESTABLISHED 1877
The Illustrated Farm and Family Journal

24 NUMBERS
50 CENTS

SUBSCRIPTION PRICE

One Year (24 numbers) 50 cents
Canadian, 1 Year . . 75 cents

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Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

The date on the address label shows the time to which each subscriber has paid.

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper, so as not to wear a hole through the envelope.

When renewing your subscription, please say it is a renewal, and if possible send the label from a recent copy. If all our subscribers will do this a great deal of trouble will be avoided.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City, Tribune Building, Chicago, Illinois
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ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Vol. XXXIV. No. 8 — Springfield, Ohio, January 25, 1911 — PUBLISHED SEMI-MONTHLY

Anniversary Introductory Offer

As a bit of friendliness to FARM AND FIRESIDE, and in honor of our thirty-third anniversary, don't you want to introduce us to some of your friends and neighbors? All FARM AND FIRESIDE folks have friends and neighbors who would like our paper. We will accept special introductory subscriptions to FARM AND FIRESIDE for Ten Cents each, each subscription to extend for three months, including six big issues of FARM AND FIRESIDE. Your friends will appreciate this neighborly interest, and FARM AND FIRESIDE will be grateful for the introduction. This proposition will hold good until February 10, 1911.

The census report shows that a large number of folks have gone from Iowa in the last ten years, but it does not tell the number who are homesick to come back again.

One reason why farming is paying better nowadays than formerly is because there are fewer people engaged in it in proportion to the total population of the country, and consequently there is a larger share of the proceeds for each individual farmer.

Money planted with strangers in a far-off scheme is not bread upon the waters, nor apt to return after many days.

A free bulletin entitled "Underground Waters for Farm Use" can be had by addressing the Director of United States Geological Survey, Washington, D. C.

"All the wealth of her South American colonies failed to make Spain rich, because her outgo far exceeded her income," says a writer. How many farms we see on which this very policy ends in bankruptcy or a mortgage sale.

A new strawberry has been originated by Luther Burbank, named Patagonia. The name of his new cherry is Burbank.

Will somebody please notify our grocer that the cost of living has been reduced?

A Missouri correspondent says: "When the temperature drops so low some of these nights, hang a lighted lantern in the cellar, about a foot from the floor, making sure it cannot fall and set fire to the house. The heat from it may be enough to save the fruit and vegetables from freezing."

Let's Go On Together

It is not for all of us to be able to say: "I have been with FARM AND FIRESIDE from the first." But we hereby invite every reader to stay with us the next third of the century. All we ask of you is to stay alive, and to take the paper; the matter of making it worth your while to take is then up to us. We confidently accept the responsibility. We face the oncoming years cheerfully, knowing that Father Time will bring us surprises, but firm in the faith that there is an evolution working for higher things in every age, and if, day by day, we choose wisely among the new things that present themselves, we shall do well for you and for ourselves. And that is the best blessing we can ask for the new division of time upon which we are entering—that we may have the grace to choose wisely day by day among the new things. One choice at a time, and that a wise one. If we can put that in effect, we shall make progress. In the next thirty-three-and-a-third years, we shall make a lot of progress—if we can adopt that rule.

And so can each of you. Let's go along the road together!

Is It a Fruit Bubble?

MR. SPILLMAN, of the Department of Agriculture, sprinkles a little cold water on the enthusiasm of the fruit-farm fanatics. It is a good thing to sprinkle. The conditions remind one of the tulip bubble which set the people of Holland crazy centuries ago. Everybody was either in tulips, or going into them, and a good many fortunes were lost in the craze. The Mississippi Bubble was a boom in a colonization scheme. The South Sea Bubble was the same sort of mania for investments in stocks of companies operating in the South Seas. England has just been through a Rubber Bubble—blown by promoters of shares in rubber plantations. In this country we are in the midst of a craze for fruit-farms that bears a great many of the earmarks of a Fruit Bubble.

Mr. Spillman suggests that the markets for all sorts of fruits except two are easily glutted when too many people get the notion that great profits are to be made in them. The exceptions named by him are apples and pears. The writer of this has just planted an apple-orchard, and feels duly grateful for the exception—and still he is not quite easy in his mind. He is harassed by doubts as to whether or not the country can possibly absorb at adequate prices the apples that may be expected when the orchards now planted and in process of planting come into bearing. The apple is the greatest of all fruits. It can be used for more culinary purposes, it has more of the qualities of a staple food, there are greater possibilities of expansion in the demand for it than any other fruit. But it has been stated that the orchards already planted in the Northwest will have a capacity of two hundred thousand car-loads per year when they come into bearing. The area planted in the East is enormous. And still the boom goes on.

Everywhere, on the cars, in the hotels, in the clubs, on the streets, are to be found the men who are planting apples or have interests in apple-orchards. Can all their dreams come true? Can any large proportion of them come true? The writer, in the midst of his own dream, is still awake enough to harbor doubts.

OUR FEBRUARY 10th ISSUE

Will Present to Our Readers

One of the Most Important Features

Of the Coming Year of Good Things

It is the opinion of FARM AND FIRESIDE that Dr. S. A. Knapp is one of the greatest educators, just as he is one of the greatest organizers, that America can boast to-day. At the age of seventy-seven he is directing the mightiest single force that is working for the advancement of the agriculture and the regeneration of the rural education of the South—perhaps of the whole nation.

Doctor Knapp's Own Story

of this great work begins in FARM AND FIRESIDE, February 10th.

In this same issue: An account of a Utility Poultry Plant that clears its owner $1,300 a year—not an exceptional, record-breaking case, but a proved instance of solid success on a moderate scale. Other great poultry features of seasonable interest.

Be sure you are wrong and then back out.

It is a long road to success, but not so far back.

The name of "Get Together Club" could be used to good advantage in rural neighborhoods.

The farmer who does not do much reading will not be apt to do much thinking.

Life Insurance

Let no man or woman take it from any utterance in these columns that we think it unwise for farmers to insure their lives. There are things so necessary to the profitable carrying of the farm that they should be taken care of first; but a life insurance policy as large as can be carried safely is a thing to be bought with enthusiasm and carried on with every possible economy. Life insurance does not pay as an investment; but as a purchase it does. Some people fail to remember that the thing purchased in a life insurance policy is not tangible property, so much as safety and the comfort there is in the feeling that in the dark days when a dollar looks like a ticket into paradise, there is a great institution ready to pay the dollars.

There are billions of dollars of so-called insurance in force which may be good to-day, and worthless in five years; but, on the other hand, there are old and tried companies whose policies are as good as government bonds, and will be as long as this nation stands. Their contracts are worth the money they cost. After the farm equipment is adequate, the time has arrived for considering the matter of insurance. Some families do not need it; but most do. We buy clothes for comfort of body. Why not buy insurance for comfort of mind and peace of soul? The glory of the life insurance business is that it sells these things, which in the olden times were priceless.

To raise a mortgage, plant labor and sow economy.

If you want a man to have a good opinion of your judgment, disagree with everybody who disagrees with him.

Silage

If you haven't a silo, think over the matter of building one. The greatest forage crop in the world is corn; and the silo is the most economical device for use in dishing it up. The silo is almost indispensable to the really up-to-date dairy, but silage is the best form in which to feed corn to sheep or to beef cattle. There is nothing hard to learn about operating a silo. It has all been worked out. The road to profits under present conditions seems to be through silage, and concentrates to balance the ration. And in the matter of concentrates, cotton-seed meal is worth thinking about. That it pays to buy concentrates rather than to feed an unbalanced ration is certain.

The agricultural college that is "up to date" is the one that graduates the largest number of progressive farmers.

The farmer who makes doctors and lawyers out of his sons should not get mad at the rest of mankind when he can't get help during harvest.

Getting Bulletins

About four fifths of the bulletins published by the United States government are allotted to senators and representatives for distribution. They are always glad to send them to their constituents on request as long as any are on hand. Many bulletins can be obtained from congressmen and senators after the supply of the Department of Agriculture is exhausted. There are three ways to get these publications: First, from your senator or congressman, who will send them free as long as they last; secondly, from the Secretary of Agriculture, who also gives them away, and third, from the Superintendent of Documents, who sells them. The ordinary bulletin sells for five cents, but some of the more extended ones cost more. In one of these three ways most of the bulletins hitherto issued may be got—and they form a body of valuable farm literature.

The Long Road We Have Traveled

A Review of a Century's Agricultural Progress—By W. A. Henry

The editor of Farm and Fireside has asked for some notes on the rise and development of American agriculture during the last hundred years, divided roughly into third-century periods. Necessarily it is possible to touch only the more striking features and chronicle some of the many changes during that time. As population statistics come from the Census Reports our divisions are by decade periods.

The Creeping Stage—1810 to 1840

The year 1810 found our still young nation with a population of about 7,000,000, which increased to 17,000,000 by 1840. Most of the people then lived in the country. In 1810 five per cent. of the people lived in cities of 8,000 inhabitants or over; in 1840 the percentage had risen to 8.5, and by 1900 to 33 per cent. The sparse population of those early times was scattered along the Atlantic seaboard with overflow colonies steadily pushing westward into the forest wilderness, which originally covered all our Eastern and Southern territory.

Agriculture was indeed primitive in those times and every home an independent settlement of almost patriarchal family life. The work of the women folk was varied, laborious and supremely important. The wool was carded and the flax was hatcheled and spun into yarn and woven into cloth at the family loom. Cooking was done at the fireplace and baking in the brick oven. Butter and cheese were laboriously made in the old-fashioned way. All fruits were either dried or preserved with sugar, for sterilization and sealing in air-tight cans, discovered in France in 1795, had not yet come into practical use.

For the men folk the first work was cutting down the great forest trees and gathering them into log heaps where they were burned. Think of the enormous destruction of timber in those times! The ashes were leached and the lye boiled to "black salts" or combined with tallow to form soft soap. Then the rooty soil with its loose rich leaf-mold was broken up by the iron-shod wood plow and seeded to grain among the stumps. Jethro Wood took out his first patent for the cast iron plow in 1819. As in Biblical times, grain was cut with sickles and threshed to the tune of beating flails. The grass cut with straight-handled scythes was gathered by hand rakes. There were no steel springs for the rude wagons made by the village wagon-maker and blacksmith, though the bodies of the Concord coaches swung luxuriously on leathern straps.

Along the New England Coast the excess grain was moved to the seaports in ox wagons. When ground to flour or to meal, which was kiln-dried, it was, along with dried codfish and salt mackerel, shipped to many ports, including the West Indies, from which were brought back yellow sugar, blackstrap molasses and rum. The settler bold enough to move any distance from navigable water thereby loosed his connection with civilization and forced the more to rely on his own crude resources for subsistence. He could not market his grain nor could he raise cattle or sheep profitably in a country covered for the most part with forests. And so our people as a nation were hedged about in a manner that made development slow at best.

But more and more stories of the new land came floating into the settlements from the trappers, the hunters and the hardy pioneers whose adventurous spirits had carried them through the forested wildernesses and on into the vast prairie regions of the upper Mississippi Valley. Here was a rich soil without stones or other impediments to tillage; on them grazed millions of buffalo and other wild animals that fully attested the marvelous qualities of soil and climate. But this region was for all practical purposes shut off from the Eastern settlements by almost impenetrable forests.

Whenever or wherever there is a real pressing need in human development, that need, in some way, is always met. To reach this great Western prairie by moving up the Mississippi River was a slow process, practically impossible for those living on the Atlantic seaboard. To break over the mountains from the Potomac to the Ohio Valley was a wearisome pilgrimage, and wagoning through the forests of northern Pennsylvania or New York was but little better. And so the Erie Canal was conceived, and soon men were digging that great ditch through the primeval forests of central New York. This canal was America's first great commercial undertaking. It stretched from Troy on the Hudson to Buffalo on the Great Lakes. At its completion, in 1825, cannon were placed five miles apart along the route from Buffalo to Troy, and on down the Hudson River to New York City. The minute the gates at Buffalo opened to let in the water, the first cannon was fired, and on catching the sound the next cannoneer, five miles down the canal, fired his charge, and so on until the eager, waiting inhabitants of New York City heard the joyful sound, and knew that the waters of the Atlantic were in boat connection with the interior great lakes of America. At once a tide of immigration began pouring through this artery, pushing on by way of the Great Lakes into the great upper Mississippi prairie empire.

In 1831, a sixteen-mile steam railroad was completed between Albany and Schenectady. This was the forerunner of our present vast system of railways now tying all parts of our country together in a ceaseless interchange of traffic. Vessels, propelled wholly by steam, crossed the Atlantic in 1838, giving rapid transportation to the ports of Europe. The last accompanying primal necessity, the electric telegraph, was given by Morse and Vail in 1837.

It is marvelous that all these basic instruments of transportation so vital to the progress and development of this nation should have come into existence and been put into operation so nearly together. By means of them the settlers on the new Western lands, a thousand or more miles from the markets, were enabled to exchange meat, grain, butter, cheese, etc., for tools, clothing and other necessities of life.

The year 1840, which roughly closes the first third-century period, may be regarded as roughly marking the time when this infant nation ceased creeping and began to walk.

The Walking Stage—1840 to 1880

The changes we shall note between 1840 and 1880 were largely the resultants of the great forces set in motion during the preceding period. By 1880 we numbered 50,000,000 people and agriculture was advancing by leaps and bounds. As this period neared its close railroad lines still pushed in every direction throughout the great Middle West. The Union Pacific, begun in 1864, was pushed out over the Rockies, across the deserts, and finally to our Pacific Coast possessions. For the most part the railroads preceded the settlers, thereby wiping out most of the real hardships of pioneering.

In early times little cotton was grown in the South because it required a day's labor to separate the seeds from four pounds of lint cotton. Whitney's invention of the cotton gin in 1794 determined the character and direction of agricultural industry in the South. About that date one enthusiast boldly predicted that the time would come when the South would raise enough cotton to make all the socks worn by all the people of America.

In 1862 two great events had their birth. Congress set aside 11,000,000 acres of land for the endowment of an agricultural and mechanical college in each state of the Union. It also passed the Homestead Act, by which lands might be acquired by settlers without cost. And how rich we were in land! One speaker in Congress almost despairingly declared that our government had land enough for all the people for the next *seven hundred years!* And by seventy years from that time, now almost run, the government will have parted with all agricultural lands included in that statement.

In the year 1820 there came to us 8,000 immigrants; in 1840, 80,000, and in 1880, nearly 500,000. These sturdy people, mostly from Northern Europe, settling on the new farming lands helped mightily in the upbuilding of agriculture in the great West.

About 1840 conditions began to change perceptibly in favor of a less strenuous existence for all classes of people, including the farmer. Factories were taking over the spinning and weaving; fruits and vegetables were being preserved by canning instead of wholly by drying and preserving. The clothes-wringer came about 1860, and washing-machines were in use. Where in the early times the cooking had been done at the fireplace and the baking in brick ovens, there was now the cast-iron stove. Until about 1860 the home was lighted by the tallow candle—one on the supper-table ordinarily, but two in honor of company. Beginning about 1860, "coal-oil" came onto the market, but was rated cheap at seventy-five cents or a dollar a gallon. Grain was now cut with the reaper and grass by the mower, and the hay gathered and stored by the horse-rake and the horse-fork. We had Pullman railroad cars and palatial lake and ocean steamships, though farmers rather rarely patronized them. But they were riding in wagons and buggies with hickory spokes and steel springs in place of the carts and lumber wagons of the earlier times.

By the close of the period, or about 1880, we were in times of great plenty and variety in all the necessities of life and many of the luxuries. Figuratively, our nation was no longer creeping, but advancing by great strides.

The Running Stage—1880 to 1910

About the time Farm and Fireside had its birth, or thirty years ago, we had reached our majority as a nation and become one of the world powers. And yet we had only really begun to develop our agricultural and other resources.

Immigrants were now pouring into the country in a great flood, and everywhere there was a rush for land. Above all, this was a land-settlement period. In springtime trains moving into the Dakotas and other Western territories were so loaded with people that women and children often slept in the aisles of the coaches for lack of better accommodations!

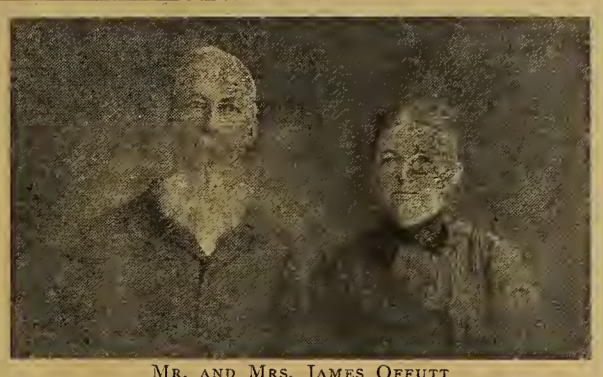
[concluded on page 17]

Our Old Settlers' Meeting

A Page Written by Our Readers

MRS. MARGARET HENRY

PETER GOTTFREDSON


MR. AND MRS. JAMES OFFUTT

CLAUS WIESE

MRS. A. G. HENDRICKSON

J. E. RORABAUGH

IRWIN H. ALMY

CHARLES A. GREENE

W. C. GOODERL

A THIRD of a century! A long time measured in years, a longer time in terms of change. It speaks well for the vitality of a farm paper that it has been able merely to attain to the record of that length of life. It speaks well for its quality and its essential usefulness that it has been able to hold readers throughout that long span of time. Many of FARM AND FIRESIDE'S earliest readers in that third of a century have passed from this life. We are sure that there are many from whom we have not heard. But we are proud of the goodly number that have written us, and whose names we have placed in the Roll of Honor on this page.

First, however, let our readers speak for themselves. We are going to give over this page to an "Old Settlers' Meeting" for the exchange of views of these truly constant readers of FARM AND FIRESIDE.

I have been a constant reader from the beginning. One of our family took "Farm and Garden" before it joined with FARM AND FIRESIDE. I have watched the development of the paper, and if it continues to improve as it has in the past, I expect to read it as long as I am able. The greater part of my reading has probably been done, but if the time ever comes when I may be unable to review the news from the columns of the old FARM AND FIRESIDE I shall still keep my friendly feeling for it. A reader at ten, a reader at forty-four—will I be a reader at sixty-four? JACOB L. ALEON.

Vanderburg County, Indiana.

My wife was among your earliest readers. We can't remember the exact date, but think it was 1877. She subscribed first at Roscoe, Missouri, and I don't believe we have lost fifteen numbers to date, in spite of many movings—from Missouri to Florida, back to Missouri and thence to Oregon. I told my wife when she subscribed for the paper that the first frost would kill it, but the paper has passed a good many frosts and is a lively kicker to date; and we think the balance of our days we will keep FARM AND FIRESIDE following us up until we cross the river into the next planet.

Douglas County, Oregon. N. STONE, HANNAH STONE.

I, for one, have taken FARM AND FIRESIDE ever since it first started, and as my time is not out until nineteen hundred and twenty-one, I think I may be ahead of the game more than any subscriber you have got. That is figuring pretty well ahead for one of my age—sixty-seven. I am in hopes of staying on this earth a good while longer, but we old soldiers are passing away very fast, and none of us are what you might call spring chickens. IRWIN H. ALMY.

Providence County, Rhode Island.

It is with pleasure that I can reply to your request to your oldest readers, and tell you that we have been subscribers to FARM AND FIRESIDE since Vol. 1, No. 1, and during that time have kept our subscription paid in advance. When we received the first copy, our post-office address was Cawker City, Kansas. For more than twenty-four years it has come to us on the shores of the Pacific Ocean. GEO. M. STANTON.

Orange County, California.

I am truly one of your constant readers. I have been a reader of your paper from its beginning, thirty-three years ago, and am now paid four years in advance, though I am up in seventy years of age. FARM AND FIRESIDE is in many families in this neighborhood, but few of the subscribers were living thirty-three years ago.

The picture which I send you—the last one I had taken—dates back itself thirty years. My wife, our three children, fourteen grandchildren and three great-grandchildren are all living and we had the pleasure of eating Christmas dinner together.

FARM AND FIRESIDE is always a welcome visitor in our home. W. C. GOODERL.

Ohio.

I have taken the FARM AND FIRESIDE since its publication and at this writing have on file all of the numbers down to Vol. 34, No. 4. It is a paper I could not have done without. It has been of great use to me all these years. My subscription is paid to 1913.

New London County, Connecticut. JOHN F. BROWN.

While selling merchandise in Curryville, Pike County, Missouri, in 1877, we received a subscription proposition from a paper to be called FARM AND FIRESIDE. In exchange for a list of one hundred names we received FARM AND FIRESIDE the first year. We have been regular subscribers ever since. In 1879 we closed out our town business and moved to the farm. Although raised on a farm we knew but little about raising stock, poultry, etc., and then was when we found FARM AND FIRESIDE very useful to us. We very much enjoyed the articles written by Maida McL. They were so kind, motherly and useful. We missed her articles very much when she ceased to write.

Here is greeting to all oldest readers.

Audrain County, Missouri. JAMES OFFUTT AND WIFE.

Do you remember the Czar revolver you gave as a premium with FARM AND FIRESIDE thirty or more years ago? I have mine and it shoots as well as ever. Since my husband's death I have lived alone, but am not afraid with that old seven-shooter under my pillow. C.

I am not one of those old soldiers of FARM AND FIRESIDE that has read it for thirty-three years, as I am only thirty-four years old, but I feel like giving a word of praise to this good paper for the glad tidings it has brought to me for twenty-six or twenty-seven years. About the year 1883, my father, Mr. Albert W. Reece, subscribed to FARM AND FIRESIDE. Our home was on a one-hundred-acre farm, two and one half miles east of High Point, North Carolina, and nearly ever since it has visited us.

When I saw that the paper was soon to celebrate its thirty-third birthday my memory turned back to childhood days when I used to sit for hours of the long winter nights and listen to father and mother read it and chat pleasantly and plan for the next summer's crop. In my mind's eye I can now see the old home as it was twenty years ago, my three sisters and myself sitting around the crackling fire of oak and hickory wood, eating hickory-nuts and walnuts and popping corn. I love to pop corn yet, and doubtless a good many other readers of FARM AND FIRESIDE do, too.

Since then I have left the old homestead to make my own way, have married and have children of my own and live in a thriving city. But now when I sit by my fire and the children come in from school and hand me the latest copy of FARM AND FIRESIDE, it reminds me once again of those happy days and I have to stop and tell them a story about the farm. My little boy eleven years old says he is going to be a farmer and he loves to read FARM AND FIRESIDE. He is now the proud owner of a fine two-and-a-half-year-old colt and three head of Jerseys.

We all read FARM AND FIRESIDE and want to continue to as long as we live and it maintains its same high standard. LEWIS S. REECE.

Guilford County, North Carolina.

MR. AND MRS. JOSEPH N. FORBES

I wonder if I am not one of the first comers on FARM AND FIRESIDE'S list—I subscribed in the seventies, and have been a constant reader ever since. I have been a frontiersman and home-builder and have got many useful ideas from it. The stories have been clean and moral. I can say I was never better satisfied with any publication, either for myself or family. I first subscribed from Vermillion, Sevier County, where I was the first settler and promoter. My wife is very particular about what she or the children read, but has no fear of FARM AND FIRESIDE. P. GOTTFREDSON.

Sanpete County, Utah.

The Roll of Honor

Irwin H. Almy	Rhode Island
John F. Brown	Connecticut
Joseph N. Forbes	Florida
Mr. and Mrs. Cal. Winnie	Wisconsin
Geo. M. Stanton	California
Mrs. E. C. Erwin	Washington
Jacob L. Aleon	Indiana
Mrs. E. R. Carr	Alabama
L. O. Sword	Minnesota
Mr. and Mrs. James Offutt	Missouri
W. C. Gooderl	Ohio
S. B. Johnson	Arkansas
Mrs. Margaret Henry	Pennsylvania
W. L. Baker	Ohio
Mr. and Mrs. N. Stone	Oregon
Mrs. S. W. Lopez	Mississippi
J. E. Rorabaugh	Pennsylvania
J. L. Fisher	Pennsylvania
G. M. L. Snelling	California
H. G. Roberts	Tennessee
F. L. Rowley	South Dakota
W. M. Richardson	New Hampshire
Emil C. Preyer	Ohio
J. J. Strickland	Pennsylvania
Claus Wiese	Minnesota
J. W. Hill	Illinois
E. H. Dickerman	Minnesota
Mrs. Sally A. Clark	Missouri
Mrs. A. E. Cutts	New York
Peter Gottfredson	Utah
O. B. Robbins	Missouri
Mrs. R. Z. Bailey	North Carolina
Court W. Ranslow	Missouri
D. W. Chase	Maryland
J. N. Hood, H. M. Hood	Delaware

The list above includes subscribers who have been with us from the very beginning. But we cannot omit from the Honor Roll the following good friends who have been subscribers or readers for thirty years.

G. W. Shults	Georgia
Charles A. Greene	Ohio
Mr. and Mrs. J. N. Donohoo	Texas
Mrs. Hannah K. Dravo	Pennsylvania
Mrs. Allen G. Hendrickson	New Jersey
Mrs. Nancy Dalrymple	Ohio
Robert A. Russell	Virginia
Gus Pasco	Wisconsin
Wm. D. Spicknall	Nebraska
A. D. Chisholm	Massachusetts
J. M. Atwood	Alberta, Canada

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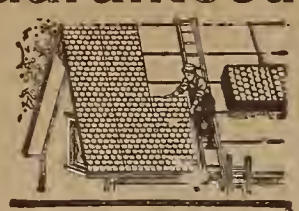
Against Lightning!

We stand ready to make good this claim with a $10,000 guarantee bond.



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It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

FAMILY OF FIVE

All Drank Coffee From Infancy

It is a common thing in this country to see whole families growing up with nervous systems weakened by coffee drinking.

That is because many parents do not realize that coffee contains a drug—*caffeine*—which causes the trouble.

"There are five children in my family," writes an Iowa mother, "all of whom drank coffee from infancy up to two years ago.

"My husband and I had heart trouble and were advised to quit coffee. We did so and began to use Postum. We now are doing without medicine and are entirely relieved of heart trouble.

(*Caffeine* causes heart trouble when constantly used as in coffee drinking.)

"Our eleven-year-old boy had a weak digestion from birth, and yet always craved, and was given, coffee. When we changed to Postum he liked it and we gave him all he wanted. He has been restored to health by Postum and still likes it.

"Long live the discoverer of Postum!"

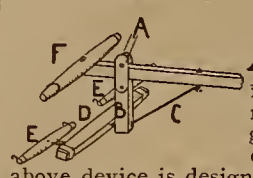
Read "The Road to Wellville," in pkgs. "There's a Reason,"

Ever read the above letter? A new one appears from time to time. They are genuine, true and full of human interest.

The Headwork Shop

A Department of Short Cuts and Knacks

Easier on the Team

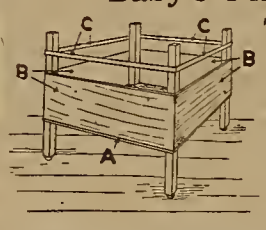


All farmers know the injury that binders and like machines do to horses' necks, because of the great weight that comes on the neck-yoke. This above device is designed to offset this.

It is meant for a four-horse team, two horses at the tongue and two in the lead. The wooden extension (B) touches the tongue and is fastened to it by two flat pieces of iron (one on each side, marked AA). This extension (B) is braced by the iron rod (C). The bolt that holds brace C to B, also holds coupler for doubletree (D). The following dimensions are about right: Irons (AA), ten inches; wooden extension (B), sixteen inches; brace (C), twenty-four inches.

The pull of the two lead horses, exerted on the singletrees (EE) gives a lift to the front end of the tongue that takes much of the weight off the yoke (F) and relieves the wheel horses. This device has proved its great value on our own farm for several years. James W. Campbell.

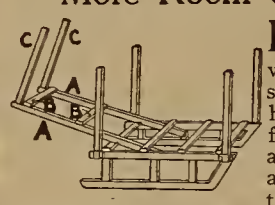
Baby's Play-House



This is a good way to keep the baby off the drafty floor in the winter. Make a sort of square crib with strong two-by-twos three feet high at the corners, and the bottom (A) of the box part one foot from the floor. Above that box close in the sides for another foot up, with a half-inch board or heavy cloth (B). Six inches above the top of the box thus made fasten a light rail (C) with the edges rounded off. Put the baby's playthings in this box on legs and he will play there for hours at a time. It is on casters so it can easily be moved from one room to another or outdoors when the weather is fine. We have raised two children in one of these devices and my wife considers it the handiest thing about the house.

Edward Sommers.

More Room on the Sled



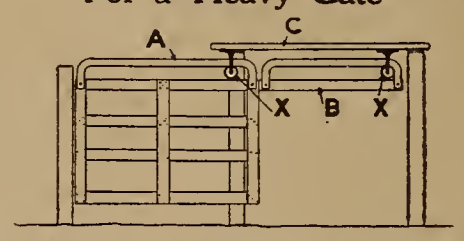
Here is a sled extension which is very convenient in snowy weather for hauling big loads of fodder. It can be attached to almost any farm sled. I use two bottom pieces of two-by-three eight feet long (AA) with two crosspieces (BB) bolted on, and standard holes in back end. The bottom pieces of extension are notched one half inch deep on the bottom and one half inch deep on top where they fit over and under the crosspieces of the sled, to prevent slipping. The proportions of sled and extension are made a little exaggerated in the sketch, so as to bring out the construction of the extension more simply. E. P.

Fireless Cooker in Five Minutes

Get a five-gallon or fifty-pound lard-can with a tight cover. Any kind of pot with a close-fitting lid will do. Double up eight or more newspapers and push them down in the bottom of the can, letting them come up at the sides to form a nest for the pot. To cook any kind of vegetables, let them boil about five or ten minutes to get good and hot, then set the pot in the can, crumple up more paper and push it down beside the pot, then put six or eight folded papers down tight on top of the pot-lid, put the cover on the can and leave it. If put in in the morning, by noon the vegetables will be done and still hot. Beans take all day and must be taken out at noon and heated up a second time. Beef should boil thirty minutes, then the cooker will finish it in about four or five hours.

This makes a light, cheap, clean cooker that will do good work. W. A. Moore.

For a Heavy Gate

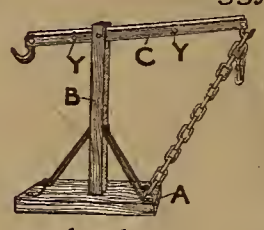


Take the tracks off an old barn door or a similar rig and nail one track (A) on the top of the gate. Then nail a strong board (B) on the gate so that it makes an extension of the top rail of the gate and fasten another track onto B. Raise the next two posts six or eight inches and nail a board on the top of the post to which rollers (XX) are fastened. Then nail one board on each side (not shown in the sketch) to keep rain off rollers. You may have to weight board (B) at end to balance gate. M. M. H.

Headwork Winners Dec. 10th

R. D. Woodmansee, Windy-Day Door-Stop
C. G. C., - - - Needn't Stop and Figure
Fred E. Hutchins, - Measure as You Walk

Buggy-Jack

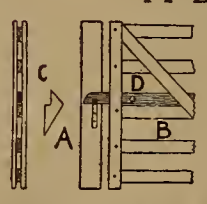


Here is a dandy handy buggy-jack you can make yourself, if you have a forge. If not, any blacksmith can turn out the iron parts for you.

The base (A) is a piece of two-by-six two feet long. On this is set the two-by-four upright (B) thirty inches high. A broad notch is cut out of the top and holes bored through on which to pivot the lever. This upright is braced with pieces of buggy-tire. The lever (C) is made of two wagon-tires or other strong strips of iron about one fifth of an inch thick, two inches wide and three feet long. Bolt them together at YY, blocking the strips one inch apart. Bore other holes at both ends of, and one third of the way along, the lever—the last being for the bolt which pivots the lever to upright.

Place the lever in the notch in top of upright and run a bolt through the holes in upright and lever. On another strong bolt through hole in one end of lever hang an iron hook which should be three inches across from point to eye. It should swing loosely in the bolt, as should the smaller hook at the other end. Lastly, fasten a trace-chain about three and a half feet long to the base. Put large hook under axle, put your weight on other end of lever, and when you get the vehicle where you want it, hook the trace-chain. D. W. Danison.

A Drop-Latch



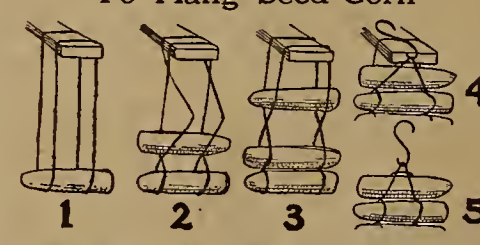
This latch, though simple, is very handy on a gate one must pass through quite often, as it will close itself by giving it a slight push. It is built on the plan of the common metal latches used on small doors, but seldom on gates. Latch (B) strikes A on the slanting portion and rises until it drops into the slot and is held. The latch (B) and fastener (A) are made of oak, as that gives less friction. D is a handle to raise the latch by. C. Lowe.

A Horseman's Winter Kink

Many early settlers of West Virginia in having their horses shod in winter had a practice of having the smith flare or bevel the calks and toes of the shoes outward so that they did not go square down from the shoe, or even turn in slightly as they sometimes do. It was found that when the snow was in a "bally" condition it fell out so much more readily from a shoe so made. Then before starting out on the road they soaped the frog of the horse's foot and all inside the shoe with old-fashioned soft-soap, and the horse was as near insured as could be against snow-balls for that day.

Paul R. Strain.

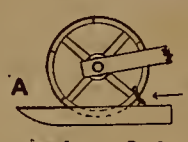
To Hang Seed-Corn



Here is the ready method I used successfully this fall to string up seed-corn. First, thrust one end of an inch board four inches wide into a crack in the side of a corn-crib or other convenient place about four and one half feet from the ground and securely fasten it there. Cut some notches in the board for the strings to lie in to keep them from slipping. Now throw your string over the board and slip in the first ear (Figure 1). Then, with one hand grasping the two back strings and pulling them through the others, shove the next ear through with the other hand (Figure 2—for simplicity the hands are not shown and the sketch shows merely position of strings). Then you will have the string in the position shown in Figure 3, all ready to shove in the third ear. To place the fourth ear, proceed as in Figure 2, and the fifth ear will go in as the third one did, and so on for each alternate ear. The string should, of course, be much longer than the one in the sketch. Place butts and tips of ears alternately at right and left, and keep the ears pressed down close to each other as you weave them in. I use a single strand of binder-twine and put up from twelve to fifteen ears in a set.

To finish, thrust a hook made of heavy wire under the loops of the string and put the front loop over the hook (Figure 4). Then pull down the rear loop to the position shown in Figure 5, and the string of corn is ready to hang up. Thomas Dowler.

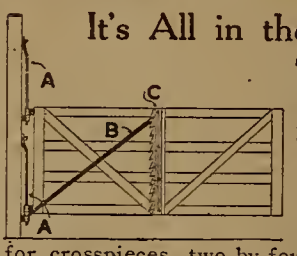
A Winter Wheelbarrow



The illustration shows the wheel of my wheelbarrow fitted with a runner for use when there is snow on the ground. When I first tried it I was surprised to find that it ran easier than the wheel alone did over bare ground.

To make the runner, cut a piece of hardwood lumber, about two and one half by four inches and about two and one half feet long, to the illustrated shape A. Then chisel a mortise, the same width as the wheel and of the depth shown by the lower dotted line, in the top of the runner. Drive in a staple at B and pass a rope or wire through the staple and around the rim of wheel as shown in illustration and you have a winter wheelbarrow. Subscriber.

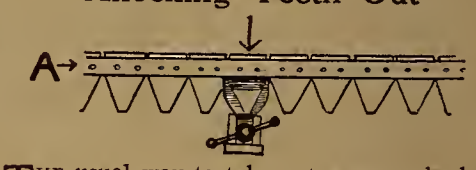
It's All in the Brace



The sketch shows a gate I used twenty-three years. It has never sagged as the support comes in middle of gate. Make it of one-by-four lumber; for crosspieces, two-by-four notched in one inch to receive the lengthwise slats. The bars (AA) are made of five-eighths-inch steel, long enough to let gate slide as high as you wish. A solid-eye hinge holds the lower ends of AA, and the top ends are bent to come close to post and bolted to the post with a seven-sixteenths-inch bolt through the post. The brace (B) is made of one-and-one-fourth-by-one-half-inch steel with an eye in one end for bar (A) to pass through, and bent so that this eye sets square on the bottom eye hinge bolt. The other end is filed to fit notches of C, which is also made of steel, notched the whole length and bolted at top and bottom.

When you wish to separate sheep or hogs from cattle or when there is snow on the ground, take hold of the middle of the gate and raise it up and it will stay where you put it and swing as freely as ever. There are no pins or bolts to move and the gate will never sag. C. N. Lyon.

Knocking Teeth Out



The usual way to take out worn or broken sections from the sickle-bar of a mower to which the sections are riveted, is to chisel or file off the rivet heads and then, resting the sickle-bar on a large nut, with the rivet over the hole in the nut, to punch the rivet out with hammer and spike. Even when punching out rivets very carefully, you are likely to bend the bar, and in any event it is a slow job. Here is a way to take out six or seven sections safely in the time usually required for one.

Open an iron vise slightly and push down into it the section you wish to remove, until the sickle-bar (A) rests level on the jaws of the vise. Screw the vise up so that it grips the section lightly—not tight, but firmly enough so that the sickle-bar will remain in place without being supported. Then strike down on the section to be removed with a heavy hammer—the arrow indicates where to hit. One or two blows will cut off both rivets—just as wire is cut with pliers. Keep hold of the sickle-bar so it will not fall when the section is driven loose. The bar is supported by the vise, so it will not bend even if it gets part of the force of the blow.

Hy. F. Nietert.

Simple Aërator

Rather than buy an aërator I made one as follows: I took the cover of a thirty-gallon milk-can and had a circular piece of tin soldered over all but the outside row of holes which serves as ventilators when can is closed. This I place open side up on a frame of wooden barrel hoops and strong lath (shown at top of sketch). Frame should be just large enough to slip inside the can and rest on the ridge near the top. The bottom hoop should lack six or eight inches of going around and should have a tendency to spring out so the weight of milk in cover will not make it slip off the ridge. The four uprights inside the hoops should be long enough to leave six or eight inches between can and cover, for free circulation of air and to admit a small pail to catch milk if desired.

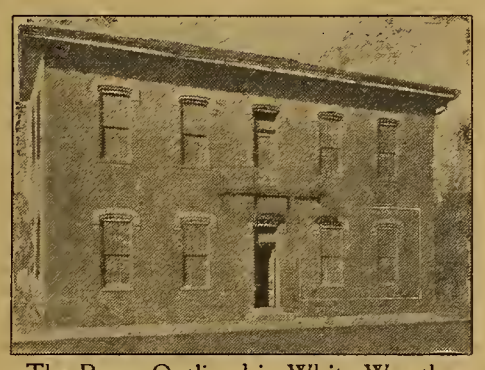
Slip the frame into the can, put the cover upside down on it, pin a cloth strainer to the edge of the cover so it hangs down inside the circle of the cover, using spring clothespins. This takes the dirt out of the milk, then spreads it out in the bottom of the can cover and allows it to run slowly in fine streams into the can through the row of holes in the can cover. The device works as well as any aërator I have seen and saves washing extra utensils, as the can-cover must be washed anyway. C. Jay Follett.

From Acorn to Oak

The Story of the Rise of Farm and Fireside

A THIRD of a century ago, in the fall of 1877, there was established in Springfield, Ohio, a publication called FARM AND FIRESIDE. This had been conceived primarily as a medium to assist in advertising the agricultural implement business of Mr. P. P. Mast. The larger possibilities of the undertaking were almost at once apparent, however, and the controlling organization, the P. P. Mast Co., gave way to a partnership of the three men principally interested, under the firm name of Mast, Crowell & Kirkpatrick. The moving spirit in the conception of this enterprise was John S. Crowell, to whose energetic, insistent advocacy of the proposition must be credited the beginning of a publication business that was to found a farm journal of nation-wide circulation. At the outset he was printer as well as partner. The man whose work meant most to the editorial development of FARM AND FIRESIDE, however, was Mr. J. C. Kirkpatrick. During the first years of the paper's existence, he took direct charge of the editorial work, and later, when he had given over the active direction of the farm departments to other hands, he still retained the position of managing editor and a responsible supervision over the policy of the paper.

Only one room in the two-story building pictured at the head of this page was required to house this venture in its embryonic stage, but it early became apparent that the paper was destined to outgrow its swaddling garments without delay. Only two years elapsed before the upper floor of a larger building had to be secured, the force of workmen having grown from the proprietors and a helper or two to a dozen when the new quarters were first occupied.

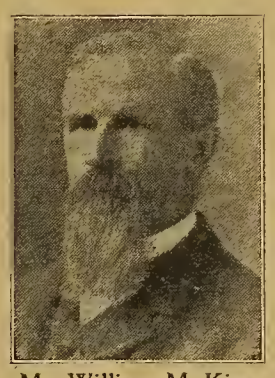


The Room Outlined in White Was the First Home of Farm and Fireside

Mr. William M. King, of Yellow Springs, Ohio, was associate editor and an extensive contributor from 1878 to 1885. The last three years of that time Mr. King took particular charge of the Southern or "Louisville" edition then maintained. Mrs. King was the leading contributor to the household department, under the pen name of "Maida McL.," during that period, and a prominent contributor for many years after. Mr. and Mrs. King now reside at Ballston, Virginia, near Washington, D. C. Mr. King was for the four years, following his withdrawal from FARM AND FIRESIDE, chief of the seed division of the Department of Agriculture. Later he was with the Census Bureau, and to-day he is still in the national agricultural service, in the Bureau of Statistics. FARM AND FIRESIDE is still favored with his contributions.

Mr. Charles L. Thorne

Mrs. "Maida McL." King



Mr. William M. King

The Formative Period

In 1882 Mr. Charles L. Thorne became editor of FARM AND FIRESIDE, remaining in that capacity for six and a half years, until he accepted the post of Director of the Ohio Experiment Station at Wooster. Born and raised on a farm, Mr. Thorne then, as now, had that essential qualification of understanding just what the farmer must learn in order to most successfully deal with the complex problems that constantly confront him. Undoubtedly to the genius, method and mathematical accuracy of Mr. Thorne FARM AND FIRESIDE owed no small share of its steady, substantial progress and popularity.

A letter just received from Director Thorne contains the following cordial words: "I recall with pleasure the years spent with FARM AND FIRESIDE, and I heartily rejoice in the evident progress it is making toward a still larger field of usefulness."

Only a short time elapsed after the change to larger quarters before it became evident that the growth of FARM AND FIRESIDE must be provided for in a home of its own. In view of this building a site was procured where the first instalment of the present plant was erected with a frontage of one hundred feet and a depth of seventy-five feet, with a well-lighted basement, three stories and an attic. This was completed and occupied late in the fall of 1881.

After the withdrawal of Mr. Thorne, Mr. John C. Barnett became active editor of FARM AND FIRESIDE, continuing uninterruptedly in that capacity until the fall of 1909 and remaining with the paper as an advisory expert until May, 1910. The Company was again fortunate in the choice of editor, Mr. Barnett, like his predecessor, having been farm-born and farm-bred with a finishing of his educational training in college. As a writer of incisive, illuminating English, Mr. Barnett proved himself to be a master who could put before the minds of his readers the salient findings of science and experiment stripped of the incumbrances that are apt to make obscure the truths contained. Natural ability, preparatory training, travel and persistent attention to the work in hand were the main factors that accounted for the success he achieved. Mr. Barnett is now farming near Urbana, Ohio.

During the two decades of Mr. Barnett's occupancy of the editorial chair FARM AND FIRESIDE expanded into an agricultural journal of national scope without a peer in its class. To accommodate this expansion fifty feet were added to the frontage of the building in 1891 with depth, basement and stories to correspond. This large additional space only sufficed for twelve years. The company had also acquired the "Ladies' Home Companion," which, under the name of the WOMAN'S HOME COMPANION, made a phenomenal growth, increasing in size more than four times and in circulation over fivefold in a little over ten years. The growth of the two papers made necessary the addition of another fifty-feet frontage, in 1903. This enlargement gave a total frontage of two hundred feet and seventy-five thousand square feet of floor space on the four floors of the entire plant. Even this immense plant has since became inadequate and now still another addition, fifty by eighty-four feet, of five stories is nearing completion. This brings the aggregate of floor space for the entire plant approximately to one hundred thousand square feet.

Mr. Herbert Quick assumed active editorial management of FARM AND FIRESIDE in 1909. Once more choice was made on the grounds of eminent fitness by birth and broad personal knowledge of rural requirements secured through active farming experience. These qualifications were reinforced with intimate knowledge of agricultural, governmental and political conditions gained by residence in various sections of the country advantageous for study of our rural problems. His experience in the world of affairs had been exceptionally broad. He had been farmer, teacher, lawyer, active business man and editor. From 1898 to 1900 he served the municipality of Sioux City in the capacity of mayor. Perhaps the decisive factor influencing the management to offer Mr. Quick the editorial chair was his inimitable literary ability to give charm to the simplest experiences of rural life or other matters under consideration. Many FARM AND FIRESIDE readers do not need to be told that Mr. Quick's name has become well known in authorship outside of agricultural journalism.

The Crowell Publishing Company's Present Plant. A Further Addition is Now Being Constructed

The Business Organization

During this active period of the growth and development of FARM AND FIRESIDE, the organized membership of the Company remained the same until 1899, when the death of Mr. Mast occurred. His interest was then purchased by the remaining partners who had been the active conductors of the business since its establishment, Mr. Mast's energies being largely given to his extensive implement manufacturng business. Shortly after this transfer of Mr. Mast's interest, the business was incorporated as The Crowell and Kirkpatrick Company.

In 1901 Mr. Kirkpatrick retired from the company, leaving Mr. John S. Crowell the largest stockholder and most prominent factor in shaping the destiny of the business, of which he was official head until February, 1906, when Mr. Crowell retired, the business being sold to the present management, the name remaining as before—The Crowell Publishing Company. Since his retirement, Mr. Kirkpatrick has been connected with publishing and railroad business in various parts of Ohio. Mr. Crowell, since retiring, continues to reside in Springfield, Ohio.

The fireside and household interests of FARM AND FIRESIDE have always been equally prominent with those of agriculture, it being realized that the hearthstone constitutes the base on which the structure of successful farm husbandry must rest. During Mr. Kirkpatrick's connection with the company, he gave personal attention to the fiction and other special features of the magazine. For many years the pages relating to the household were prepared under the direction of Mrs. Louise Christie, whose pen name was Christie Irving. Mrs. Christie was continuously in charge of this work from early in the eighties for more than a decade. She now resides in Denver, Colorado. Miss Lida Keck, now Mrs. L. E. Wiggins, succeeded Mrs. Christie. Mrs. Wiggins now resides in Springfield, Ohio, engaged in magazine and other literary work.

During the years 1904 to 1908 Mr. H. Marlin Saylor supervised the fiction and various special features that appeared in the household section of the magazine. Since that time, both the fiction and "Fireside" departments have been in charge of Miss Margaret Hartness, who has become widely known for her work on both FARM AND FIRESIDE and the WOMAN'S HOME COMPANION.

Few magazines of the character of FARM AND FIRESIDE have had the good fortune to retain valued department contributors during such long periods. Mr. P. H. Jacobs took charge of the poultry department in the fall of 1888, and his relations with the magazine were severed only by his death in 1906.

Mr. T. Greiner assumed editorial charge of gardening and kindred subjects in 1888 and is still enriching this department with his extended and ripening experience. Mr. Greiner is recognized as one of the highest authorities in his special field.

Prof. Samuel B. Green in the same year, 1888, took charge of the fruit-growing page and closed his work only with the ending of his life in its fullest intellectual tide of power, August last.

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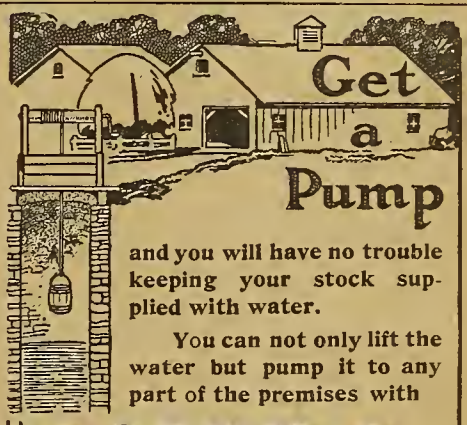

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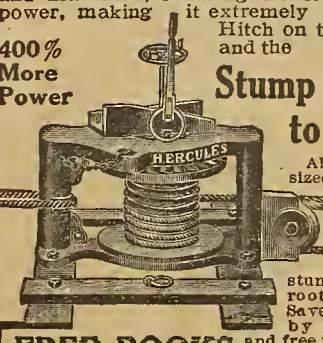

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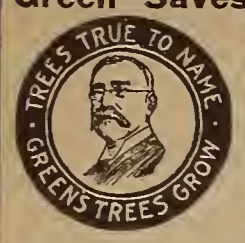

Every person who expects to plant trees this Spring—a dozen or a thousand—should first send for Green's 1911 Complete Catalogue. It lists everything desirable in fruit and shade trees, as well as small fruit; tells you how we sell direct to you from our nursery, and quotes you lowest "at-the-nursery" prices.

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Lettuce, Malta Drumhead	Turnip, Purple-top Globe

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GARDENING

By T. GREINER

From Producer to Consumer

FROM the standpoint of the consumer, and perhaps as a matter of fact, the scale of prices which the retail buyer of garden and other products has had to pay is pretty high. It is estimated, however, that in the transit from his pockets into those of the producer sixty-five out of every one hundred cents have been absorbed by the people between, and only thirty-five have reached the grower. What can we do to make a better showing in 1911?

First, we must try to have the goods first-rate, high-class goods, not trash. I sell a good deal of my surplus vegetables, as well as the products of the hen-yard, to private consumers, people who know a good thing when they see it, and come to the place after the things they want. I do sell, however, a lot of things (green onions, celery, etc.) to grocers at wholesale prices. It may be well to make an effort to sell more of that stuff to consumers direct, and secure the higher retail figures. That will help. We may also, more determinedly than ever before, work for that parcels post which, when we get it, will, to some extent, eliminate middlemen's profits and at reasonable cost bring producer and consumer together. If in one way or another we can manage to deal more directly with our customers, especially with those who use the things we grow, we have solved a big problem, and will come out in better shape in 1911 than we have ever before.

Fillers and Potatoes in Orchards

A reader in St. Louis, Missouri, says he proposes to set out next spring one hundred apple-trees thirty feet apart with a peach-tree in every square. In the great apple regions of this (New York) and other Northern states, we must set our apple-trees, if standard, at least forty feet apart for a permanent orchard. Some planters have used early-bearing and short-lived varieties, especially the Wagener, for fillers, in order to utilize the large spaces between the permanent trees for a dozen years or so. The difficulty is that when the permanent trees come into bearing people usually want "just one more crop," and thus neglect to cut the fillers down at the proper time, which inevitably leads to the end of usefulness for the entire orchard.

In the West and Southwest apple-trees come into bearing earlier than ours do here, and not being so long-lived, are set closer than we set them. To set peach-trees as fillers, as a few growers here have done, might do when there is space enough. The practice is not favored by our commercial growers. It is all right in a family garden or orchard.

There is no reason why potatoes could not be grown for a year or two in a newly-planted orchard, either in the ordinary way or by covering with straw. By the latter method the potatoes are covered six or eight inches, and even up to a foot, in depth, and this requires an immense bulk of straw. I can hardly say how many loads will be needed, but only small areas are usually planted in this way. For use in orchards, however, we must take in consideration that by this heavy mulching we are apt to stimulate the growth of wood to an excessive and perhaps harmful degree, and caution will be advisable.

Forcing Rhubarb, Radishes and Spinach

G. C. S., New Jersey—Rhubarb is a crop like mushrooms in at least this one respect, it can be grown in the absence of light. In fact, the less light, the better. What you want in forced rhubarb is tender stalk, not leaf growth. The latter would require light. A frame mushroom-house is undoubtedly a good place for forcing rhubarb. This will do very well under the same conditions of temperature as mushrooms.

You cannot grow radishes or spinach in darkness. These crops need light, and a good deal of it. Although they are quite hardy, too, I would prefer a higher temperature for them than is sufficient for rhubarb or mushrooms.

A Gardener's Selling Lesson

I USED to peddle truck, apples, and so on, but I found that the results did not justify the efforts. I got up at three o'clock three times a week, and started out at daylight. Often I sold out well, but if there were picnics on hand, or a steady rain set in, there I was stuck with a load of perishable truck unsold, and had to drive all over town, take any price I could get and lose most of the day. On hot days I used to meet old marketers who had followed the business(?) for forty years plodding along through a fog of dust, with restive, fly-bitten horses, going to find the late market glutted and prices down.

I gave credit to supposedly honest customers by the month. I notice in going through my discarded wagon book five accounts totaling eighteen dollars that I never got and never will get.

One day I entered a large store to sell some left-over produce. It was fresh and fine, but the proprietor said, "You peddle out stuff to private families and run a book, don't you?"

Of course I answered, "Yes."

"Well, I won't buy a thing of you nor any other man who peddles around the streets."

The prices gotten in peddling were see-saw prices, up and down, according to the wagon the housewife bought of. Unscrupulous truckers cut prices shamefully to secure my customers at rates that I couldn't meet.

After trying peddling out thoroughly, I quit it and made an arrangement with a store-keeper by which he was to take all the truck I sent him, regardless of other offers. On my part I agreed not to sell to any one else, to supply only the best truck, and buy supplies from him only. As a result he pays me a higher cash rate than any one else, sends me 'phone orders and my load is all sold before my wagon leaves home. I am back in a few hours. I am no longer annoyed by fault-finding customers who used to strip down all my roasting-ears to pick out the best, stick brass pins in dressed fowls, or break wings and breast-bones in trying to find out their age, and demand heaping over-measure! Furthermore, I need not worry over the non-arrival of the pay-car or doubt the honesty of the customer who bought a five-dollar lot.

In the long run I believe it pays to sell to a store and get your cash, every time.

CLIFFORD E. DAVIS.

Mr. Davis' experience will give a useful hint to readers similarly situated. We might, however, call attention to another possibility in truck selling—marketing not from door to door, taking chances on buyers, but rather marketing on a regular route to steady customers, who will give fair prices and courteous treatment to the man who supplies superior vegetables. With such customers the day's wagon-load can be made up on a basis of previous agreement with the customer by 'phone or at the preceding delivery. Or, the consumer may even come to the producer, as Mr. Greiner describes in the opening article on this page. Of course, to hold such trade one has to have produce better than the ordinary, and to work up such a trade one must have the knack of salesmanship.

EDITOR.

Big Scale Celery Raising

IN THIS neighborhood (Ottawa County, Michigan) there are many farmers who have from five to forty acres of muck soil, and as muck is the real thing for celery, there is a lot of it raised here. Some farmers even have five or more tenants raising this favored product, which is shipped mostly to Chicago. Perhaps your readers will like to hear about the methods that we use in our region with first-class success.

Early in the spring, about the middle of April, we make the seed-bed ready. First we put on a good coat of rotten manure and then plow it. After that we drag it three or four times. For about one week we let it lie, then drag it again once or twice. Then we take a board about ten feet long, fixed so that it can be drawn by a horse, and with this make the surface nice and smooth.

When the seed-bed has thus been well worked up, we sow the seed. This is done from the twenty-fifth of April to the first of May. The seed is sown in rows six inches apart—not broadcast—and about as thin as any drill will sow it, and the seed-bed is kept clean until it is time to plant. The plants are then taken out of the seed-bed and planted in rows from four to five feet apart in the field made ready for it, the plants being set from four to six inches apart in the row.

When the fertilizers are used a trench is plowed about five inches deep into which the fertilizers are strewn. A good handful on every three feet is sufficient for most celery fertilizers. When used like that it will take about seven hundred pounds to the acre. When barn manure is used it should be put on broadcast in a moderately heavy coat.

Celery is mostly planted in the rows from the first to the twentieth of July. It should be cultivated every week and kept clean of weeds to the twentieth of September. Then it is banked up once with a horse banker and that is repeated October 1st, after which it is left alone till trenching-time, which is from October 20th to November 1st. The varieties generally used are Golden Self-Blanching, Columbian and other late varieties, such as French Success, Winter Reliance, Giant Pascal or Dwarf White Solid. All of those will keep for a long time.

Every grower that raises celery on a big scale generally sees to it that he can ship celery from November 1st to the first of March. This is done by raising enough Self-Blanching to ship from November 1st until Thanksgiving, and Columbian to ship from Thanksgiving to New Year's. After that the late varieties are shipped, of which I think the French Success and Winter Reliance are the best keepers.

WILLIAM MARLINK.

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Fruit-Growing

New Youth to Peach-Trees

I DISCOVERED the advantage of the process of dehorning after cutting back some water or sap sprouts that grew on old stubs of favorite varieties. The sprouts were cut back at least two thirds of their length, and all old wood and dead limbs removed with a saw. All wounds made in cutting off the limbs were painted with lead and oil to keep out dampness and to prevent the setting up of fungous growths which causes rapid decay. The season the trees were cut back there were few peaches, but they were very fine. The tops made a fine growth and set a heavy crop of strong fruit-buds. The second season after dehorning, the trees were loaded with choice fruit, the size, color and flavor

A Tree in the Writer's Kentucky Orchard —Before Dehorning

being considerably better than they were originally when the trees were in their prime.

A few years later the San Jose scale was introduced into our orchards and before we were aware of their presence they had killed many of our trees and injured more to such an extent that we at first thought of cutting them all down. Then thoughts of the cut-back sprouts on the old stubs and their wonderful crops of fruit induced us to dehorn those showing the most life. The scales had begun their nefarious work on the tips or tender growth of the branches and kept it up until the entire tops were killed. The dehorning was done during the last of March and up to the middle of April. All the limbs that were cut off were carefully gathered and burned and the dehorned bodies were sprayed wtih the lime, sulphur and salt mixture. It took a very small amount of the mixture to cover them completely, and there was not a sign of a living scale during the

The Same Tree—After Dehorning. The Writer is Illustrating the Proper Way to Saw a Limb

entire season, no leaf curl, no scab or rot. The trees had been attacked to some extent by all the above, but since we have been using the lime, sulphur and salt spray they have troubled us very little.

We spray for the scale during March and April and again just as soon as the leaves fall, which is some time in October.

The first photograph shows a tree in our orchard early in the spring of 1910. The second picture shows the same tree just at the completion of the dehorning.

Dehorning makes old trees become as new. In a well-shaped tree there should be only three or four main limbs, and these should be cut back to six or eight inches, as shown in the photograph (No. 2). If the tree contains an unreasonable number of large limbs, all but three or four should be cut off close to the body and the wounds painted. This cutting away of the top stops the flow of sap, hence there is a rank growth of sprouts that must be thinned while small, during the summer. The head of the tree may be made uniform by leaving one sprout properly located on each stub, so that as it grows out the side of the tree from which it starts will be well developed. By careful selection of the stubs to be kept and by close attention afterward a beautiful head may be formed.

Photograph No. 3 shows a tree that had been dehorned two years previous and had grown a new head. This picture was taken just before

Another Tree, Dehorned Two Years Previous, Showing New Head

the annual pruning. About one half of last season's growth will be cut away, also a great many of the smaller and intervening limbs will be cut out. In this way we shape the tree and thin the fruit by one operation.

Photograph No. 2 shows the way to cut off a limb in dehorning. First a cut is

Same Tree Shown in First and Second Pictures—Taken the July After Dehorning

made with the saw on the under side of the limb as much as one third of the depth, which prevents any mangling of the parts left when the branch falls. Otherwise it may tear off a long sliver from the bottom of the stub.

The fourth photograph shows the same tree as Nos. 1 and 2, but was taken from a

[CONCLUDED ON PAGE 10]

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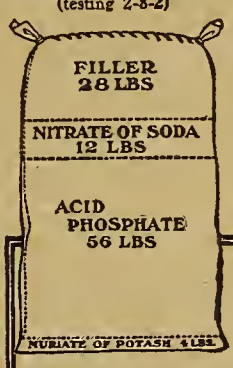
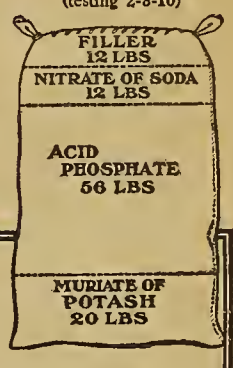


Both of these are called "complete" fertilizers, but they are very different.

Well-balanced Fertilizer (testing 2-8-10)



If you prefer ready-mixed fertilizers, insist on having enough Potash in them to raise the crop as well as to raise the price. Crops contain more than three times as much Potash as phosphoric acid.

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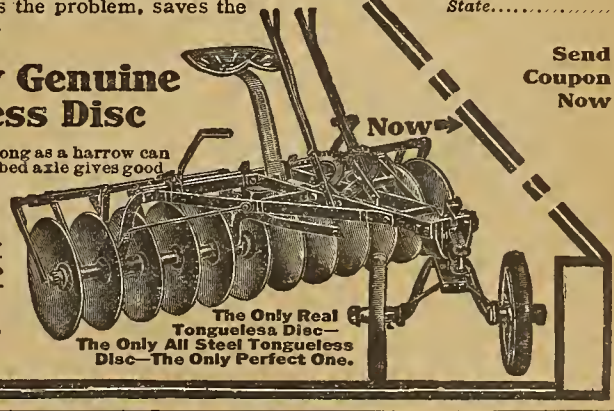

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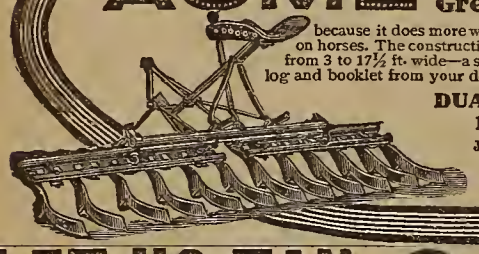

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Garden and Orchard

Rabbits Won't Meddle

MR. R. J. BOUGHTON, of Kent, Ohio, for many years a subscriber to FARM AND FIRESIDE and still, in his seventy-seventh year, an interested reader, sends us the following description of a rabbit-repellent that is simple and that has stood the test of long use.

In FARM AND FIRESIDE of November 10th, Page 9, I noticed Mr. Grinstead's description of his troubles tying corn-stalks and old rags to his fruit-trees to protect them from the depredations of rabbits, which protection was unsuccessful. Later, he said, he procured a quantity of drugs and mixed them with whitewash and applied, yet after all this time and expense he thought the trees might need a second application. Again in FARM AND FIRESIDE of December 25th, Page 9, a note said: "It will take a little time to surround young orchard-trees with screen netting or veneer protectors, but it takes the rabbits a mighty short time to peel the trees." Now will I be intruding if I cast in a mite?

Take lard (any old lard will do), put it in a dish over the fire till melted, then stir in sulphur till it is highly perfumed. Mix well. Then with an old paint-brush paint the bodies of the trees from roots to as high as rabbits can reach. One application will be sufficient. Mr. Bunny won't meddle.

Now if Mr. Fruit-Grower wishes to do a still better job, next spring, when the danger of rabbits is passed, and on some day when the housewife has done out the family washing, let him take the warm suds (not hot) and with an old stocking or woolen rag wash the trees from top to bottom, scrubbing well, but not so as to injure the bark; and later, when he goes out among his trees, he will have occasion to smile (I think). The above treatment has been in use by us, when needed, for at least seventy years, and I don't know how much longer. I never knew it to disappoint.

"Pure Spray" Law

SPRAYING is at least half of fruit-growing, as well as a good part of gardening and truck farming. The new law on the adulteration or misbranding of spraying materials—called the Insecticide Act of 1910—is now in force and is very important.

In common parlance, it may be called a "Pure Spray Law," or a "Pure Poison Law." It forbids the transportation from state to state of adulterated or misbranded insecticides or fungicides, the most important of which are Paris green and arsenate of lead.

It will be enforced by the Department of Agriculture a good deal as the Pure Food Act is enforced. It regulates the percentages of the poison, the water and the filler allowed in these commodities, and fixes the percentages, too much or too little of which will cause the substance to be regarded as adulterated or misbranded. Persons desiring full information should write the Secretary of Agriculture, asking for it. Users of insecticides, fungicides and sprays who suspect adulteration should bring the matter to the attention of the department. The act will no doubt be a good thing for both the manufacturers of good goods and the users of them.

Learn by Doing

L. F. C., Ohio, would like instructions in the modus operandi of budding and grafting plum and cherry trees. It is rather a complicated subject, and there is a lot of "knack" to it. Write to the Department of Agriculture, Washington, D. C., and ask for Bulletin No. 157 on the propagation of plants. Study this, and any other authorities you can have access to, and practise, practise, practise. It will be interesting and a source of pleasure and benefit.

New Youth to Peach Trees

[CONTINUED FROM PAGE 9]

different side of the tree. The picture was taken about the first of July, at which time the annual growth of wood was about half over. At that time all surplus limbs were cut off, and the small buds that would have made limbs were rubbed off, and this fall the places where the limbs had been were all healed over smoothly. It is so much better to remove the surplus limbs while they are small. There is a fine lot of fruit-buds on these limbs, which promises a good crop next season.

In one way the old trees rejuvenated by dehorning are better than young trees, for aged trees are immune to the "borer," with which the peach-grower has to contend. Another advantage with dehorned trees is that a root system is already established, one that will in two years produce a top far better than the one removed.

By dehorning, then, the life of the tree is not only prolonged and its days of usefulness made many, but this last state of the tree is better than the first. J. W. GRIFFIN.

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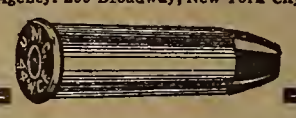

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Ralph Waldo Emerson once said: "Nothing astonishes men so much as common sense and plain dealing." The more we think about this statement, the more we are convinced that Emerson was right. Common sense enables us to choose wisely, to make correct deductions, to avoid snares and pitfalls, and plain dealing gives us the power to do the right thing by our fellow men and to avoid misleading statements. The American Seeding-Machine Co., Incorporated, Springfield, Ohio, makers of the Buckeye Grain Drill, have evidently kept this saying of Emerson constantly in mind, for their warranty on the Buckeye is so plain that it would not mislead a child, and the common sense displayed in the design and manufacture of this world-famous grain drill has made it astonishingly simple, accurate, reliable and wear resisting. Write to the manufacturers for a Buckeye catalogue, read it carefully, and then drop in at your nearest implement dealer and see what an exceptional drill the Buckeye is. The feed is of the double type—that is, two feeds in one—a force feed having great range as to quantities, and which will accurately measure and sow all grains and grass seeds, peas, beans, rice, beets, etc. The combined Buckeye Grain and Fertilizer Drill will sow all commercial fertilizers and is the only drill in the world that has an absolutely non-corroding glass fertilizer feed. The many good features will surely interest the careful farmer and we know our readers will be pleased to learn more about it by sending for a Buckeye catalogue.

Garden and Orchard

Some Foreign Seeds Tested

OUR national Department of Agriculture is doing a good work in the introduction of foreign seeds and plants. It is not to be expected that all of these will prove successes in this country, but if a few do so, we will be well repaid.

The introduction of vetch in the Southern states is an example of the benefits derived from this work, as vetch has proved to be a great soil-restorer both in the South and in the North.

The writer was favored by the department in receiving seeds and plants for testing in our section—Carroll County, Indiana. These were planted out, but owing to unusual weather conditions no absolutely fair report can be made on them until another year. Omitting all botanical names we will give a brief description of several varieties.

Seeds of a turnip common to Baluchistan (Asia) were sown and produced fine roots of good quality. The color is a bright red. The flesh white and tender. The top growth is remarkably heavy. It is early to mature and on this account will be valuable for market purposes. Sown late it will be of value for pasturing sheep because of its size and dense foliage.

A cabbage, a native of Abyssinia, too nearly resembles mustard to be of any value, so far as heading is concerned. It grows four to five feet high and throws out a large mass of leaves, but will not head here. It might be valuable for plowing under or for early pasturage, but otherwise seems of no value.

New Watermelons

Two varieties of watermelon, one from Roumania and the other from the Society Islands, were planted. These are interesting in their habits of growth and in the fruit. The first is of good quality, medium size, thin rind and small seed. The flesh is yellow and the color of the melon pure white. The second is also of fine quality. It is distinct and novel in color of flesh and rind, the growth very rank. We will plant of these two kinds another season in the hope of getting some superior melons.

The Roselle seed was planted early, but owing to inclement weather the plants were not put in the open ground until June. The growth did not reach the usual proportions, neither did they bloom. So no test could be made of the bloom for jellies, etc. The stems and stocks were well steamed and their juices extracted. From these juices we made a fair quality of jelly of a pleasant taste. The plant is very ornamental for the lawn or house and may prove valuable for its jellies and marmalades in seasons more congenial than the past. Whether it can be forced to bloom in this climate is to be tested. From the bloom the best jellies and jams are made.

Drought-Defying Corn

The most interesting and perhaps the most valuable of these tests is that of the Chinese corn. This is a strong-growing plant with short joints, dense foliage and bears two to four ears to the stalk. The ears and grain are small and mature early. The plant is a great resister of drought, having a dense mass of roots that penetrate deep into the soil. The object in its dissemination is to get crosses on our best kinds having like traits to it in growth and productiveness. We think it will be valuable for silo uses, owing to its great amount of foliage. Or, for thick sowing for hay or fodder in the fall it may be good.

Three varieties of strawberries were planted—one from China and two from Chili (South America). The latter did not thrive with us, being subject to rust and mildew. The Chinese plant, however, is a great grower—makes many runners, bears and blooms the entire season. The fruit is medium size—deep red color—very attractive looking, but entirely without taste. The only use that can be made of it, it seems, is to procure crosses from hybridizing on our best natives and getting varieties having its vigor and productiveness. J. H. HAYNES.

Agricultural News-Notes

For the purpose of encouraging fruit-growing in India it is proposed to have horticulture taught in the village schools by competent, enthusiastic teachers.

A progressive Maryland Grange has offered its members a five-dollar prize for the most profitable half acre of land devoted to fruit, vegetable and berry growing within twenty miles of Baltimore or Washington, D. C.

The recent appointment of Dr. Flodora Lobos as Minister of Agriculture for a period of six years is a fortunate one for Argentina. That nation is forging to the front as one of the leading corn, wheat, flaxseed and meat producing countries in the world. J. W. JR.

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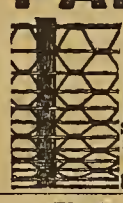

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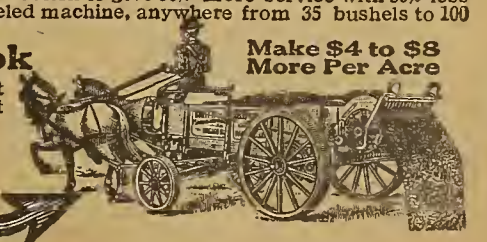

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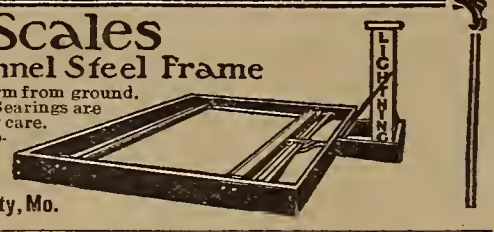

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SMITH MANUFACTURING CO., 158 East Harrison St., Chicago, Ill.

Live Stock and Dairy

When in Doubt—Test

AN INQUIRY comes from Georgia concerning a family cow suspected of tuberculosis. A part of her tail three inches long is soft, as if there were no bone in it. Otherwise she is in good condition. Our correspondent suspects tuberculosis and wants to know how to detect the disease, as the milk is being used by children, and children, as is well known, are more susceptible to infection with bovine tuberculosis, through milk, than are adults.

It is impossible to determine with certainty by the appearance of a cow, or of the milk produced by her, whether or not she is tuberculous, even in advanced stages. The softening of the tail may be due to a tuberculous condition of the tail bones, though softening may be also brought about by other causes. If the cause is tuberculosis, then it is dangerous to a certain extent to use the milk.

It is generally believed that milk, when it leaves the cow, is not infected with the tuberculosis germ, even though the cow has tuberculosis, unless the disease has attacked the udder of the cow. However, the tubercular germs may enter and infect the milk immediately after it has been drawn, and before it is taken from the barn, if cows are present which have tuberculosis of the lungs or the intestines, and so give off germs in their breath and feces.

The Only Safe Course

It would be most advisable to have a qualified veterinarian test this or any other suspected cow with tuberculin, and in case she reacts, to dispose of her, thoroughly disinfect her quarters and substitute a healthy cow in her place. In case the trouble is not tuberculosis, the veterinarian can diagnose the trouble and prescribe for her when applying the test.

Another subscriber has an otherwise healthy cow whose nostrils discharge matter and some blood. These may be the results of a bad cold or possibly of tuberculosis. The latter disease is the more to be dreaded, because no reliable outward signs of it appear until the disease is in its last stages. The animal may have become a source of danger to the rest of the herd and to those who use the milk by reason of the germs it gives off in its feces or when it coughs or slobbers. The udder may even become affected and germs enter the milk direct, without any emaciation, serious coughing or other readily visible symptom of the disease having appeared. The only safe course, where tuberculosis is suspected, is to test for it.

Our advice to the second inquirer was to place the cow in a warm, well-lighted, well-ventilated stall, with plenty of bedding, so as to help her recover from any cold she may have, but to have the tuberculin test applied in addition. HUGH G. VAN PELT.

Just a word here regarding some current suspicions concerning the test. It is impossible to give a healthy animal the disease by injecting tuberculin, which is a heated and filtered extract of bouillon in which tuberculosis germs have been grown, no germs, living or dead, being present in the final product, after filtration. The injection of this not only cannot infect a healthy animal, but there is absolutely no sound evidence that it hastens the course of the disease in animals already tuberculous. The test is almost unvaryingly accurate, in the hands of qualified and careful persons.

EDITOR.

Hard Milking Made Easy

THERE are two methods of rendering less difficult the operation of milking hard milkers. One that is often practised is the slitting of the teat with an instrument which most veterinarians have. This loosens the "sphincter" muscle which causes the opening in the end of the teat to be small.

There are two dangers which accompany this operation. First, foreign germs may gain access to the interior of the teat, causing infection that gives endless trouble to the milker and perhaps a portion of the cow's udder may be thereby lost. The second danger is that in healing the opening in the teat may become even smaller than it was before the teat was slit.

A simpler method and one less liable of ill results is to use a teat-plug to dilate gradually the opening. These plugs can be secured through any local druggist from veterinary-supply houses. They are made of lead and are of the proper form so that when inserted into the teat they will remain there between milking periods. It is best to disinfect them each time before inserting to eliminate all liability of infection. Put them in boiling water a few seconds and then, when they are cool, insert them, handling them always as little as possible and with clean hands. By the continued use of teat-plugs for a short time the difficulty of milking can be greatly lessened. H. G. V. P.

DR. HESS DIP and Disinfectant

is an *indispensable necessity* to every live stock owner.

Farmers and stockmen suffer, through lice and parasites, the appalling annual loss of nearly $200,000,000—a sum which could be saved and added to the grand aggregate of "farm prosperity" if Dr. Hess Dip and Disinfectant were used the country over.

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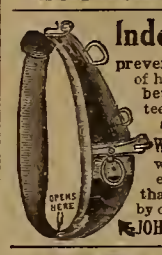

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Live Stock and Dairy

The Truth About Milch-Goats

I HAVE had practical experience in the care and breeding of milch-goats, and as the interest in these animals is growing wonderfully, while at the same time Americans know comparatively little about them, the facts I have gathered may have value to others. In the first place, I purchased a thoroughbred Swiss milch-doe for experimental purposes. When this doe dropped a doe kid, and the milk was ready to use after the fifth day, we divided the output with the kid—that is, we would pen the doe and her kid separate in the evening. The next morning we milked the doe for our use, getting about two quarts of milk, and then turned the doe and kid together for the day and let the kid have what it could get until evening. In this way, while they were running together, the kid learned from its dam to eat other food.

Some breeders wean the kids when they are two weeks old and feed them by hand. They sell the goat's milk to sanatoriums, for invalids, or to families, for babies, at twenty-five cents per quart. I know of at least two breeders who have a good trade of this kind.

We feed just what we have on hand; clover hay or alfalfa is the best. Pumpkins, cow-peas, corn-fodder, clean apple and potato peelings, oats and corn (ground or whole), bran, cabbage or turnips, stale bread, pie-crust, biscuits, etc., or any clean waste food will do. But all of the above named feeds must be placed in a clean receptacle. Nothing dirty will milch-goats eat, no matter how hungry they are. In general, anything that you feed sheep or cattle will do for goats, with this exception, it must not be slop. Feed all feed dry and in a dry place. Place pieces of rock-salt in boxes that they have access to at all times, up off the ground.

They drink very little water if it is cold. If possible have the water lukewarm and give once a day in clean vessels.

Milch-goats breed in a similar manner to sheep, five months being the period of gestation. They drop from one to four kids at a birth, but usually two with thoroughbred does.

When the weather is chilly, rainy, snowy or blustery they must be sheltered, but in fair weather they can run out, even though it is cold. When the kids are first dropped see that they are dry and that they take a little nurse. No further attention need be given them. The foregoing are precautions for the delicate ones. Hearty animals get along any way, but do much better if given attention.

We use the milk in the ordinary way, just like cow's milk. Used in coffee, it has the same effect as pure cow's cream. The milk is from one third to one half richer than cow's milk and absolutely free from tuberculosis. In all cases where microscopical

Mr. Darst's Pure-Bred Toggenburg Buck

examinations have been made not one case has ever been found of tuberculosis in goats.

We have two does in the city for our milk-supply. They run loose in our back yard during the day and we stable them during the night. The hay-rack is connected by a chute to the hay-loft. When milking-time comes around we loose one goat from her stall, put feed in a pan, set it on a milking-stand, and the goat mounts the stand voluntarily and is milked; then the next goat in the same way. Let me here remark that a good milch-doe has as large-sized teats as a cow, hence she is easily milked.

They will give milk from nine to eighteen months, according to the time of breeding and the quality of the goat. I usually have to dry them off in order to breed yearly.

Goats are cleaning up my wood-lot of twenty-five acres to a nicety, eating wild-rose bushes, sprouts, iron weeds, blackberry and elder bushes, and the leaves from forest trees as they drop. Very seldom do they eat grass when getting the above forage.

Never allow them to run on wet or mucky land. Keep their stable dry.

Rails won't do for fencing in goats. The fence must be at least four feet high and made of woven wire, and any stumps or other climbable things along the fence must be removed, otherwise the goats will be hard to keep in. Around the orchard especially have a good woven wire fence, with no rail fence joining it. J. C. DARST.

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The makers of inferior separators acknowledge that the DE LAVAL is best when they say to you "Our separator looks like the DE LAVAL" or "it's just as good as the DE LAVAL, but we will sell it to you for a little less money."

Why do they offer to sell their machines cheaper? For the very same reason that the makers of oleomargarine sell their product cheaper than butter—because they COST less to MAKE and are WORTH less.

The DE LAVAL has many imitators but no equal.

There is no substitute for the DE LAVAL any more than there can be a substitute for butter.

If you need a cream separator, why experiment with "worth less," "near" or "just as good" imitations? You will save yourself time, money and trouble by getting the genuine DE LAVAL.

For catalog and any desired information write to the nearest office of THE DE LAVAL SEPARATOR CO., 165 Broadway, New York; 42 East Madison Street, Chicago; Drumm and Sacramento Streets, San Francisco; 173-177 William Street, Montreal; 14-16 Princess Street, Winnipeg; 1016 Western Avenue, Seattle.

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Live Stock and Dairy

Cutting Corners in Dairy Costs

As a general thing, when some branch of our farming is not paying, it is safe to conclude there is a leak somewhere—a hole through which the money we ought to get is oozing and which needs to be found and stopped up. But it is not to be looked for always in the same place; sometimes it is in the production, sometimes in the selling, sometimes in both.

I recall in this connection an experience I had when a young man when the care of a large dairy farm rather unexpectedly devolved upon me. I was considerably worried over the outlook, for, although I had been farming for a number of years, my live-stock experience had been wholly with horses and sheep.

I found the farm provided with a far better lot of cows than I expected—all Jerseys, and most of them of very choice stock. The output of butter, too, as far as quantity went, was all right, but it was by no means uniform in quality. Some churnings were as fine as butter could be and others were correspondingly poor, the foreman on the farm—who made the butter himself, having been taught, he said, by his wife—marketed it at a store in a near-by village where, despite the high quality of the herd, it brought only the average price of farm butter. He subsequently told me that his wife, whom he married "way down East," was not only the belle of the town where she was raised, but the best butter-maker—a statement that caused some question in my mind as to the standards of beauty and butter in that section. Later, however, on installation of another foreman, likewise from down East, I learned that his wife, too, had filled the same place of honor, which showed that standards vary "way down East" just as elsewhere—a fortunate thing, when we come to think of it, for otherwise we should all want the same girl and the same butter.

Learning From the Other Fellow

But the problem I was confronted with was purely one of butter and not of girls. The farm was not paying, and it was very evident that it never could pay unless we found some way to get better prices. This, of course, necessitated making better butter, for the "off" churnings which the store-keeper heroically took without a murmur (doubtless getting even in some dark way that we little suspected) were enough to keep our prices permanently low. Frankly, I was not proud of the farm or my connection with it.

A little observation of my foreman's medieval methods with butter convinced me that they were beyond all hope of repair and that nothing short of a complete revolution would be of any use. Accordingly, I visited all the best dairies within reach, and when I fonnd one whose equipment and methods I felt sure were worth copying, I asked my foreman, not without some misgivings, if he was willing to abjure his whole system and try an entirely new one. To my surprise he said he would be glad to do so if only shown that the new one was better. This was easily done by simply having him visit the dairies I had seen and study their methods, and, after we had installed a little new machinery, he was soon making butter of the very finest, always uniform in quality.

We now severed our connection with the store-keeper. I learned afterward that he had been having butter from that farm for some ten years and it is appalling to think of the number of "off churnings" during that time and the tons of bad butter that he received and distributed. A number of wealthy families had their summer homes in the neighborhood and to them we now looked for a market. In a little while they were taking all our butter at just double the price received before, and this doubling of our income made the desired difference in the bottom line in our books. The farm was now on a paying basis and at least one bad leak had been stopped.

The Hay-Buying Puzzle

There was another serious leak on the farm, however, which I did not discover till the first winter was nearly over, and that was that the farm was not supplying enough hay and other forage to winter over its cows. Toward the end of February this became painfully apparent and by March we were buying hay. The foreman, whose native town, it appeared, was distinguished no less for literary talent than girls and butter, pasted onto the dairy-house door a poem, clipped from his home weekly paper and entitled "The Farmer." I do not recall very much of this gem of poesy, but I remember that one verse ran as follows:

His cows he fed with upland hay,
His oxen he fed with swale:
To be short of this on the first of March
He was never known to fail.

Apparently we were right in line with "The Farmer." Reader, did you ever run short of hay on the first of March and have to buy some for your cows? If not, you have no true conception of weights and measures; you can never realize how very little hay there is in a ton or how soon it is fed out. I resolved that that abhorrent hay-buying business should never again come to pass on that farm and it did not. We could not at once increase our hay, but it was an easy matter to raise more corn-fodder and grain to cut green for forage.

Many Hands Make Light Profits

It was many years after this, during which I had abandoned dairying and returned to my first love, the breeding of horses, that I was called in, as a sort of consulting physician to prescribe for a farm that did not pay. The farm, which was in the state of Massachusetts, belonged to a wealthy man who bought it for his recreation, but had an ambition to make it pay. For, however rich a man may be, he knows that the agriculture that costs more than it yields is wrong in principle.

In this case there was no question about the selling end, for the milk all went to a near-by private dairy, where a very fancy price was paid for it. At this price the farm ought to have paid well, but it did not. At first I thought the trouble lay in the employment of two much labor, for the farm hands were too many by half. It seemed to be the regular custom of the place to send two men to do the work of one and they were fairly falling over each other in their superabundance. I procured the discharge of a number of these gentlemen of leisure, which released the pressure somewhat, but an examination of the herd showed that there was where the chief trouble lay. For it numbered a lot of elderly females, toothless and decrepit, who were being kept for their pedigrees and the prizes they had won in the remote past. Most of them were farrow, for they were of no use, even as breeders. The milk records—for the first thing I did on reaching the farm was to cause a record to be kept of what each cow gave—disclosed an astonishing number who were being kept at a loss.

The elimination of these worthless cows, their replacement by good ones and the substitution of a better feed-ration rendered the farm self-supporting, which, with the inordinate number of farm hands that the owner insisted on keeping, was all that one could hope to do. With a greater economy in labor, it would have paid handsomely.

David Buffum.

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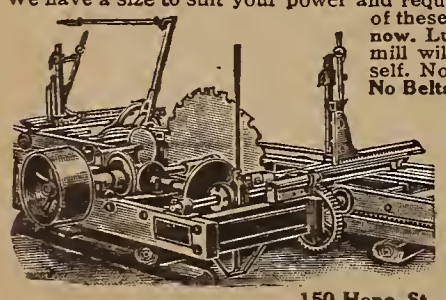

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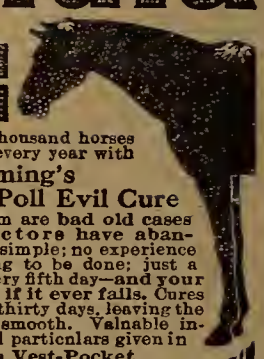
Fistula and Poll Evil



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and many of them are **bad old cases that skilled doctors have abandoned.** Easy and simple; no experience needed; no outting to be done; just a little attention every fifth day—**and your money refunded if it ever fails.** Cures most oases within thirty days, leaving the horse sound and smooth. Valnable information and full particnlars given in

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Best veterinary book for farmers: 192 pages, 69 illnstrations. **Copy mailed free.**

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SAFE TO USE — BEST CONDITIONER

The Standard Veterinary Remedy. 20 years sale. Send for booklet.

Makes the horse sound, stay sound

DEATH TO HEAVES

The first or second $1.00 can cures. The third can is guaranteed to cnre or money refnnded.
$1.00 per can at dealers, or express prepaid.
THE NEWTON REMEDY CO., Toledo, Ohio.

Too Much Florida Land has been sold to people who have never seen it. Write Brooksville Board of Trade for BOOK OF FACTS, describing different kinds of Florida soil. We have no land to sell but want settlers and investors to develop richest district in Florida, according to State Dept. of Agriculture; not pine land, not sand, but high and rolling with rich dark top soil and clay subsoil. No fertilizer, irrigation or drainage necessary. Raises 80 bu. corn per acre. Best for citrus fruits, truck and staple crops. An industrious man, with $500 to $1,000 capital, can be independent here. 300 ft. above sea; no swamps or marshes. Ideal climate, schools, churches, towns, good roads, all conveniences. Home seekers and investors please investigate. We need you and will help you. Board of Trade, Box 159, Brooksville, Fla.

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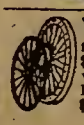

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New York City Chicago, Ill. Boston, Mass.
Kansas City, Mo. (2000 Agents) Oakland, Cal.

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Successful Incubators have always been superior to all others. This year they are better than ever before and the price is lower. **Get our direct-to-you proposition and Big FREE Book** and low price before you pay a cent for *any* incubator. We want to prove to you that this is the biggest *real value* ever offered.

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have 20 years experience back of them. Every fault of others eliminated. New special features developed this year. Ventilation, heating, regulation—all perfect. Don't experiment. Get a SUCCESSFUL—the sure, certain *money-maker*. Get our price and book NOW. If you want booklet on "Proper Care and Feeding of Chicks, Ducks and Turkeys," send 10c. Catalogue is FREE. Write postal.

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Builders of Buckeye Portable Poultry Houses
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Tells how hundreds are succeeding — how they get big hatches — how they raise big flocks — how they started on less than $15 capital and no experience — how they were successful from the start. Tells all about the latest, most improved incubators and brooders. Just the book for beginners. Write for it today.

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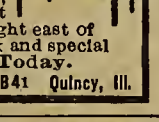
155 Egg Incubator and Chick Brooder $11.25
FREIGHT PREPAID (East of Rockies)

The Progressive has cold rolled copper tank, hot water heat, double disc regulator, self ventilating, deep nursery, high legs, double doors, safety lamp. It is made from Special Heat and Cold Resisting Material with hundreds of dead air cells. *Write today.*

PROGRESSIVE INCUBATOR CO., Box 142 Racine, Wis.
G. C. WHEELER, Manager.

100 Egg $7.15



A Genuine Reliable Incubator at less than price asked for those cheap pasteboard, iron walled machines. Perfect, reliable, hot air, heating and ventilating system at Lowest Cost of all. We Pay Freight east of Denver. Send for our Free Book and special offer or better yet Send Order Today.

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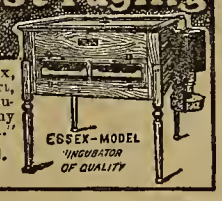

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More Eggs in the next thirty days

Feed your hens green bone, cut with a Stearns Bone Cutter. We will lend you one to try, free, for the next 30 days. If your hens don't lay lots more eggs, don't pay for it. Write to-day for catalog and booklet, "How to make poultry pay."

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$10.00 120-Egg Incubator 120-Chick Brooder

Biggest Value Ever Offered

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MAKE HENS LAY

more eggs; larger, more vigorous chicks; heavier fowls, by feeding cut bone.

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cuts fast, easy, fine; never clogs.

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Poultry-Raising

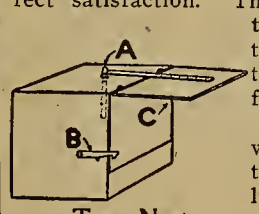
Utility Poultry-House

IN DESIGNING this house I endeavored to meet the requirements of the average poultry-breeder and give a good house at reasonable price. This house may be made cheaper by using cheap flooring instead of the siding, and by making the frame of two-by-four all through, instead of doubling at the sills and corners as I did in building mine, and also by reducing the size of the scratching-shed. If this shed is divided by a wire partition, it will make a most excellent roosting-place for the old birds and youngsters in summer, or it can be used as a brood pen for a few hens and the very early chicks. I have left the location of the small drop openings for the fowls to the builder.

I have shown no dropping-boards, leaving that to the option of the builder. The three windows should be put on with loose pin-butts so that they can be removed in hot weather. The muslin frame above should be made of one-inch lumber and covered with cheap muslin on both sides; this will leave an inch air space between the two sheets of muslin which will keep out the cold, but still allow of free ventilation without any drafts. A drop curtain in front of the roosts should be used in the coldest weather. If the house is made of matched lumber, it will need tar-paper only at the back, around this roosting compartment.

I have used muslin-front houses for a number of years and have found that the birds do better in these houses than in the glass-front ones, but that a house should have a row of windows near the floor line so that the birds may get some direct sunlight. The muslin frame should be made to swing out so it will make an awning in the summer, and the windows should swing in so that they will be less subject to breakage.

This house will comfortably accommodate a flock of twenty or twenty-five birds without the scratching-sheds, and with these thrown into use quite a good many more can be taken care of. I have shown but three nests, leaving it for the builder to put in as many as he may deem necessary. The simple form of trap nest shown is one I have used for a number of years, with perfect satisfaction. The hens seem to like these dark nests better than light ones, and there will be no trouble from egg-eating.



Trap Nest

The nest is sprung when the hen touches the peg (A), thus releasing the arm tacked onto the door. When the door drops the catch (B) hooks over the nail (C) at side of door, and holds the door. There should be ventilation holes in the box so it will not be stuffy. For small breeds a common cracker- box will make two nests, but for the larger breeds a larger box should be used. Make the drop door of light wood so that when it falls it will not scare the hen.

The peg (A) can be attached to arm so it will be lifted out of box when released.

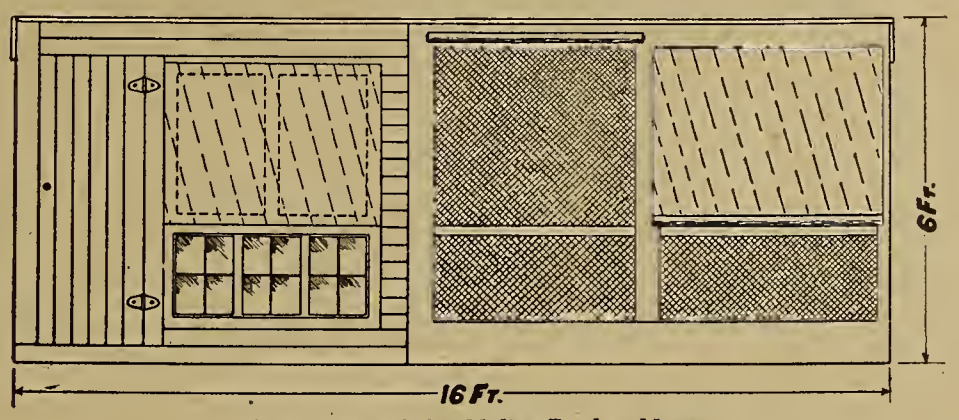
The list of material required for this house is as follows: Netting, etc.: Six feet 1½-inch mesh, 48 inches high, for the upper opening of the house; 6 feet 1-inch mesh, 30 inches high, for window opening; 14 feet 1-inch mesh, 24 inches high, for the lower part of the shed; 14 feet 1½-inch mesh, 60 inches high, for upper part of sheds. Muslin 16 yards. Two squares of prepared roofing. Glass, 3 6x8x10 sashes. Tar-paper, one roll. Lath, one bundle.

Lumber: 225 feet 8-inch flooring for roof; 296 feet 6-inch drop siding; 8 pieces 2x4, 16 feet long, for sills and plates; 9 pieces 2x4, 12 feet long, for the front studding; 13 pieces 2x4, 10 feet long, for back studding; 10 pieces 2x4, 14 feet long, for rafters.

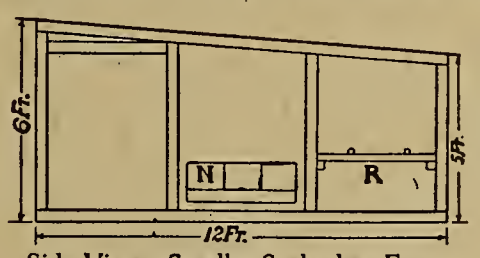
Additional lumber for window-frames, corners, etc., would vary with the preferences of builder as to details of plan. My house took 8 pieces 1x4, 8 feet long; 6 pieces 1x3, 12 feet long; 1 piece 1x12, 14 feet long; 2 pieces 1x2, 10 feet long; 1 bundle lath.

About thirty pounds of nails ranging from ten-penny down, two pounds of lath nails and two pounds of staples, besides hinges, loose pin-butts and other incidentals would be needed.

A. E. VANDERVORT.



Front View of the Utility Poultry-House



Side View—Smaller Scale than Front View. N-Nests. R-Roosts

More About Flooring

SOME few issues ago (November 10th) I described the making of a cement hen-house floor. A subscriber asks for more details.

In making the floor it is well to construct a base of cinders well tamped down two or three inches thick, to keep the floor from absorbing dampness from the ground beneath. Small rubble stone or coarse gravel will answer the purpose if the cinders are not available. In that case, the thickness of the base should be increased somewhat, as the stone or gravel is not so good a non-conductor as the cinders. On top of this base lay two and one half inches of concrete composed of one part Portland cement to five of sand. Before it sets finish with a half-inch surface composed of a one-to-three mixture. This will make a most serviceable floor for the hen-house, and the cost is exceptionally light.

M. G. RAMBO.

Here is the Man Who Saves You $25 to $75 Or No Sale

Phelps, the made-to-order buggy maker, wants to get acquainted with you and tell you how he can make you a big saving on any kind of a buggy or vehicle you want to buy by selling you direct from his big factories at wholesale prices.

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Largest Factory in the World Selling Vehicles Direct to Consumer.

Best Birds, Best Eggs, Lowest Prices All leading varieties pure-bred Chickens, Ducks, Geese and Turkeys. Largest Poultry Farm in the world. Fowls, Eggs and Incubators at lowest prices. Send for big book, "Poultry for Profit." Tells how to raise poultry and run Incubators successfully. Send 10c for postage.

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of pure bred poultry, for 1911, over 200 pages, 57 colored pictures of fowls, calendar for each month, illustrations, descriptions, photos, incubators, brooders, and all details concerning the business, where and how to buy fine poultry, eggs for hatching, supplies, etc., at lowest cost. Send 15c.

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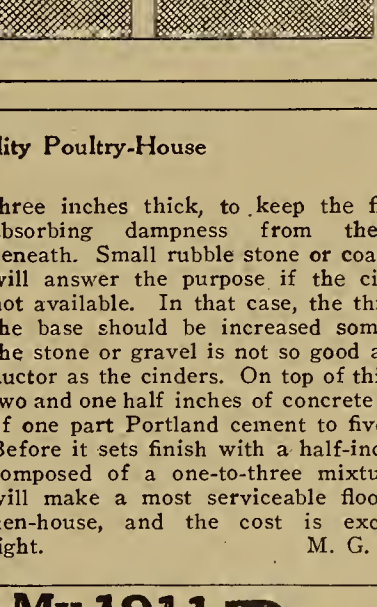

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125 Egg Incubator and Brooder Both For $10

Why pay more than our price? If ordered together we send both machines for $10.00, and pay all the freight charges. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery underneath the egg tray. Both Incubator and Brooder shipped complete, with thermometers, lamps, egg-testers—all ready to use when you receive them. All machines guaranteed. Incubators are finished in natural colors showing the high grade lumber used—no paint to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Send for the free catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO., Box 88, Racine, Wis.

Wisconsin Incubators are made of California Redwood. Lamps are galvanized iron. O. K. Burners. Taylor Thermometers.

This Illustration *shows the double walls with air space between*

Wisconsin Incubator Co., Racine, Wis. Vickery, Ohio

Gentlemen:—I am well pleased with your incubator. After I had taken off one hatch, I could have sold it to several of my neighbors, but I did not want to sell it. From the first hatch I got 97 chicks from 100 eggs and if the eggs do not hatch it is not the fault of the incubator because it is perfect.

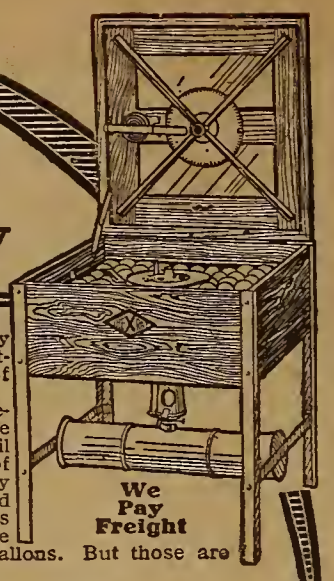
MARY M. STULL.

Wisconsin Incubator Co., Racine, Wis. Grass Lake, Mich.

Dear Sirs:—I do not think there is a better machine on earth than your incubator. From the first three hatches I got 115 chicks from 115 eggs, 105 chicks from 105 eggs and 109 chicks from 109 eggs. No incubator on earth can beat that. I will stand by this statement as I can prove it.

A. JESSUP, R. No. 8.

Bigger Hatches —With Two Thirds Less Oil —No Bother or Worry



X-Ray Incubators produce bigger per cent hatches than any other incubator made. That is proved by the thonsands of letters we have received from X-Ray users. Our book is full of proof. But we want to tell you some of the reasons now.

First, we pnt the lamp underneath, in the center, where it belongs—not on the side. So we get absolutely even temperature throughout the egg-chamber—no cold side. Then the X-Ray oil tank holds 4 to 8 quarts of oil—so there's no every-day filling of the lamp—no every-day muss, smell and bother. Fill the X-Ray lamp once and you never need touch it till after the hatch. And our automatic trip cnts down the flame when egg-chamber gets too hot. All others let the excess heat escape. That's why we use only one gallon of oil to the hatch, where others use 3 to 5 gallons. But those are not the only advantages of owning

THE X-RAY **Incubator**

the door is at the top, with two double-glass panels. Simply raise the lid to veutilate or to turn eggs. Eggs are never taken out of incubator. And you can see the thermometer every minnte without opening any door. Look right through the glass at the top. And the thermometer we use is different and better than any other. You should know all the facts about this wonderful X-Ray Incubator and X-Ray Brooder. So many advantages over all others that they're worth knowing about.

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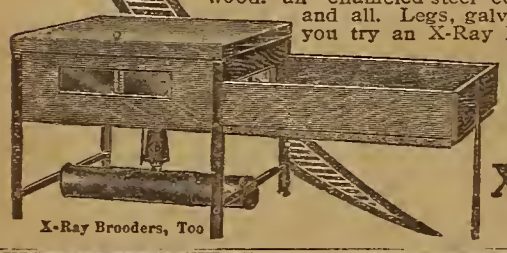
Read all the facts. See beautiful color-illnstration of X-Ray Incubator. Read how well it's made. Best of materials — genuine California Redwood. all enameled-steel covered, beautiful rosewood finish, bottom and all. Legs, galvanized steel, thoroughly braced. We'll let you try an X-Ray Incubator — and Brooder, too, if you want it — for three hatches and we'll pay the freight. You'll never give it up after you know what it does. Send us your name and address on a postal right now and ask for Free Book No.52 .


X-Ray Brooders, Too

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The Genuine have the Mayer Trade Mark stamped on the sole. If your dealer will not supply you, write to us.

We also make *Honorbilt* Shoes for Men, *Leading Lady* Shoes, *Martha Washington* Comfort Shoes, *Yerma* Cushion Shoes and *Special Merit* School Shoes.

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LOOK FOR THIS TRADE MARK

MILWAUKEE Mayer CUSTOM MADE

THE SURE HATCH IS MADE RIGHT

Uncle Sam never says how a thing ought to be made until he knows. Farmer's Bulletin No. 236 of the U. S. Dept. of Agriculture tells the right way to make an incnbator and what features a good incubator must possess. The Sure Hatch contains every one of those features and is made exactly as Uncle Sam says an incubator ought to be made. The

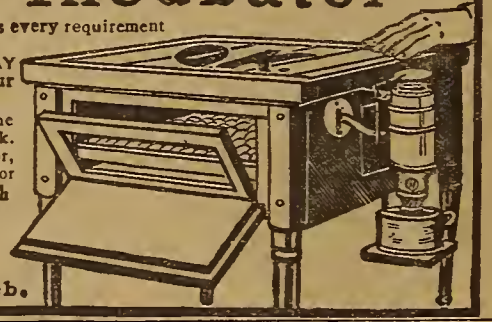
Sure Hatch Incubator

is the only one on the market that nnqualifiedly meets every requirement of the government. It's the one perfect incnbator.

We will send you a Snre Hatch for a 60 DAY FREE TRIAL, pay the freight, and refund your money if you are not satisfied.

Send for Farmer's Bulletin No. 236, sent free by the Government. Send also for the Free Sure Hatch Book. Read the Government requirements of a good incnbator, then read the description of the Sure Hatch Incnbator and you will see why we guarantee the Sure Hatch to hatch every fertile egg.

Write for both books. Early cbicks pay best.



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Box 66 Fremont, Neb.

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A better machine for the money cannot be had. Guaranteed to hatch every fertile egg. Double walls. Hot water tank covers entire top of egg chamber. Absolutely self-regulating. I've built incubators for 30 years.

800,000 Satisfied Users of Stahl Incubators

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200 egg size, " $9.60

80-page catalogue shows full line of Excelsiors, Wooden Hens, Brooders, etc. Write for it to-day.

GEO. H. STAHL
Box 253-B, Quincy, Ill.

Fully Guaranteed

THINK OF IT

Ask the editor of this paper if Stahl and his incubator are right

Poultry-Raising

With eggs so high the hen seems to feel that she needn't lay many.

Look out for soft-shelled eggs. They are the cause of egg-eating many times. Keep plenty of grit and shells on hand all the time.

It is a good plan to have the same one feed the hens right along. They are quick to see when a stranger comes among them and they will not feel comfortable as long as he is there. The hens that are comfortable are the ones that give you the eggs.

Chicken Fiction

I HAVE repeatedly advised FARM AND FIRESIDE readers who are not familiar with the poultry-raising business to go slow in making a start. A romantic tale published in a book by one farm paper has done the poultry business about as much harm as the wonderful "systems" so extensively advertised. This book is about a couple of sickly people who did not know a chicken from a woodpecker starting into the poultry business and in two years making a fortune. Thousands of people have bought the book and dreamed they could do the same thing, and dropped the little cash they possessed. One poultryman said that the publishers should have labeled it "Chicken Chaff for Poor Pale People." I have received many letters from people asking if I thought they could start in with three hundred to five hundred hens and work into a good large business like the men in the book.

Learn to Walk Before You Aviate

Let me tell these would-be millionaires that not one man in a million could even make a living from poultry on the lines so attractively laid down in the book. So just drop the dream and book together. All the men I know who have made good at the poultry business began in a small way and stuck to it.

Avoid the romances and gold bricks offered by people who never made a hundred dollars from poultry in their lives, but can tell you how to make a dollar a minute by their astonishing schemes. It is not the driblet of cash asked for their schemes that is the chief loss, but the time and money wasted in trying them.

One of the most successful breeders of hogs in this country told me that it was no trick at all to produce a first-class hog. First know what is wanted, then find and mate what will produce it, then give it such feed and care as will develop it fully. He said he knew very little about horses, cattle or sheep, but he did know hogs, and he knew just how to produce the best.

To be a successful poultryman one must know fowls. He must know what to mate to produce the kind of stock that will give him the largest profit, then how to feed and care for it to develop its best qualities. These things are easy if one will give his whole mind to them. Until he learns them he should have no more fowls than he can attend to easily, for he will have to put in some time watching and studying. I know a young man who began with twenty hens and in two years he had learned more about hens than most people learn in a lifetime. Then he extended his operations as far as he could without hiring any help and he made a good deal of money.

Seek Utility, Not Novelty

There is too much guessing and moonshine in the poultry business now for many people to make much out of it. There is too much quackery, too much chasing after strange foods and fool systems. There is also too much changing of breeds or varieties. The breeds now being pushed by great advertisements are about as good as some of the older breeds, but in no respect better, and I would advise all beginners to steer clear of them while the boom is on and prices are beyond sense. I once paid six dollars for a Plymouth Rock cockerel and three pullets that came from what is termed "utility stock," and in two years I had over six hundred of the best layers and market birds I ever raised, all from those four fowls. The reason I raised so many of them was because they were perfect market stock—strong, vigorous, blocky shape and good color. They were from stock that had been raised in the open for years, and they were full of stamina and grew like weeds.

As I have repeatedly said, the best way to learn poultry-raising is to begin with a few fowls, keep eyes and ears open, and exercise good business sense. One can get considerable information from the poultry journals, but it requires a lot of sifting. Many a time I have found much better advice in farm papers than in poultry journals. It came from people actively engaged in the poultry business and making money at it. It is regrettable that this class of people write very little because they have little time to spare, and when they get "well fixed" they don't care to.

FRED GRUNDY.

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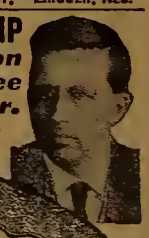

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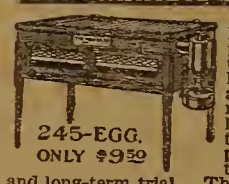
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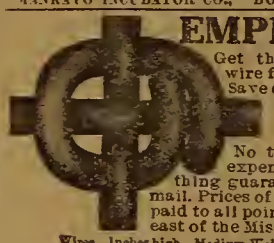

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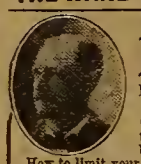

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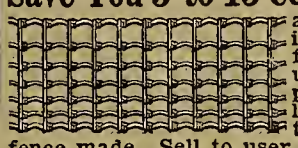

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We make 160 styles. Horse cattle, sheep, hog, and bull proof fences made of No. 9 double galvanized wires and absolutely rust proof

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Steam and Electric Train Service. $65 to $150 per month. Big demand. All roads Hundreds put to work. Experience unnecessary. Instructions by mail. Five hundred more wanted.

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Farm Notes

More About Making Brooms

BROOM-MAKING seems to interest many farmers. The editors of FARM AND FIRESIDE tell me many inquiries have come to them on that subject since the publication of my letter in the issue of November 25th.

In the first place it should be understood that this work is a trade, and no one without being shown the actual operation can make a success of it. It is necessary to learn many things that cannot be made plain on paper.

The machinery needed to make a good broom is as follows: A cylinder scraper to remove seed, a harl-cutter and harl-stemmer, a "squirrel cage" broom tier, a broom-vise to hold the broom while sewing it, a broom-clipper to cut off the uneven ends of brush after brush is tied to the handle and sewed. There will also be needed a pair of "handcuffs" to push the needle through in sewing, and a broom needle pointed at both ends, with the eye in the middle. Any kind of a building will do to work in if it is light and roomy. We use a large cellar with four good-sized windows.

The sorting of broom-corn is the first and most important lesson the beginner must learn. It is not very difficult when shown by another, but impossible to describe on paper. The learner must know, at sight, first the long even harl, second harl, shingles, turndown and handle corn. Pictures and diagrams given with catalogues of machinery help make it plain, and yet I know I could not have learned without first being shown.

I find "Brooms, Brushes and Handles," published monthly at Milwaukee, Wisconsin, a very good periodical on this subject—one dollar a year. H. H. MURPHY.

The Long Road We Have Traveled

[CONTINUED FROM PAGE 4]

In 1851 Jesse Williams of New York started the first cooperative cheese factory, thereby taking cheese-making from the farm. About 1880 the cream separator came into operation, and in 1890 Babcock gave to the world his milk test. Combined they took from the farmer's wife the burden of butter-making. In 1876 Francis Morris of Maryland erected the first silo for the preservation of green corn forage in America. At first regarded with suspicion by farmers, the silo has now become a vital factor in advanced dairying and its importance is beginning to be recognized in beef production.

During this period the reaper was perfected into the grain-harvester while the necessities of the great West brought out the header and the combined header and thresher. About 1880 came the telephone and electric lighting, and by 1890 the gasolene-engine. Once the telephone was for the city alone; now it is the farmer's best ally. Once the postman left letters at the doors of city homes only; now 41,000 rural mail-carriers daily bring mail to the homes of 4,000,000 farmers. That marvelous invention, the automobile, only yesterday the city man's machine, is with the auto-truck now beginning to find its greatest use in the country among the farmers.

One note of discord. The rush of settlers to the great fertile West drained the country from eastern Ohio to the Atlantic of much of its best youth and treasure. Young men and women from the farms and money from the banks poured into the West and left the East poor indeed. Because of this and the rush to the cities the farming property of the great state of New York shrunk $150,000,000 in value between the years 1870 and 1900. But now there is a returning tide and Eastern farming lands and Eastern agriculture are coming back to their former exalted position.

All through this paper the transportation problem has loomed up as the leading feature in aiding and directing the agricultural development of our country. Without adequate transportation the grain in a Dakota elevator has little value. It must first be moved to where it is needed for human food. Transportation has been in the past, and still is, the greatest material factor in the development and prosperity of agriculture in this country. Our freight trains now move with the speed of passenger trains of earlier days, but still the railroads fail to serve as widely as they should. Tardily and to our shame we are only beginning to take interest in water transportation.

And now we talk of the wireless telegraph and the aëroplane! Steadily and surely we are approaching the period of almost perfect fluidity of transport. And so, agriculturally and otherwise, we are entering a period that, figuratively, we may style the flying age.

American-trained truckers have found the conditions for the growing of tomatoes for the mid-winter market very profitable in the vicinity of Tampico, Mexico. They expected to ship three hundred car-loads to the United States during December.

What that great pioneer wheat, the Fultz, was in the seventies and eighties, the Turkey Red of Russia and western Kansas is to-day. It is now sought for west of the Rockies and the Dakotas, and in the dry-farming districts of Montana and Colorado. *

"Hatching Facts" Free

I want to send you my 1911 Booklet. Just send name and address on a postal—I'll mail you my latest edition of "Hatching Facts"—the most unique—most convincing—right-to-the-point piece of literature ever published on Incubators and Brooders and Poultry Raising for Profit. It gives you just what you want—quick—tells you how to start right at least expense. My Belle City Incubator won the World's Championship last season. "Hatching Facts" tells you all about it—tells you of hundreds of other wonderful hatches. Write for the Booklet today—or if in a hurry, order direct from this ad—hundreds of others do. I'll send book, too. Anyway, read my remarkable offer below. J. V. ROHAN, President Belle City Incubator Co.

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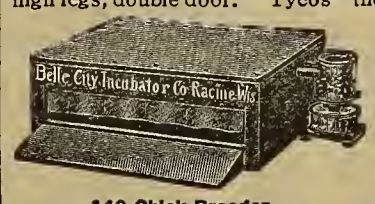
Both Incubator and Brooder, Ordered Together, Cost But $11.50—Freight Prepaid (East of Rockies)

Our Belle City Incubator will hatch more chicks, under the same conditions, than any other incubator, else your money will be refunded. This I guarantee. It has double walls and dead-air space all over, copper tank and boiler, hot water heat. The best self-regulator, deep nursery, strong egg tray, high legs, double door. "Tycos" thermometer, egg tester and safety lamp included.



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is the latest and by far the best book Holden has written—the ONLY COMPLETE corn book—intensely interesting, in every way practical and easy to be understood and followed—the result of years of experience, tests and demonstrations; and Corn Secrets is the summing up of it all.

Holden, as a boy on his father's farm in Michigan, began to look for things. He was dissatisfied with farming—too many troubles—too much work—not enough money. In working his way through college he worked his way into things for himself and by himself and soon began to instruct his professors about his rich discoveries in corn. He satisfied himself that money could be made in corn-growing and made easily. He learned the then unknown wealth of corn, how to increase its value by proper breeding and careful selection of seed, making it richer in oil, protein, starch, glucose and sugar, and how to

Increase the Feed and Fattening Value of Corn

for live stock purposes. All this was in college days. Prof. Holden has studied corn ever since, and he has become the world's greatest corn expert. He is in demand everywhere, has been instructing farmers and putting them in the way of making money in corn growing, and now he gives to the world at large his greatest and most complete work in Corn Secrets.

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If you or your boy think of entering your state or county corn contest, you certainly cannot hope to win without Holden's Corn Secrets. If your competitor has it, and you don't, he is sure to beat you and raise the prize-winning crop.

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Every corn-grower just must have Corn Secrets, it matters not how small the acreage. No corn farmer can afford to be without it. You cannot produce best crops without Holden's Four Rules. Corn-growing without profit is drudgery. Holden's Corn Secrets tells you how to make corn-growing interesting, fascinating and profitable. It is the new and pleasant way. It tells you how to harvest and care for the seed, how to test the seed and keep it in proper condition until planting time. It tells you how to sort, grade and select seed for planting. In addition, it has the most wonderful series of corn illustrations ever made, showing by half tones from photographs exactly how every step is performed. To put Corn Secrets, Holden's latest word on corn improvement, into the hands of every corn-grower in the country, to increase the nation's wealth and the farmer's welfare, we make this great offer:

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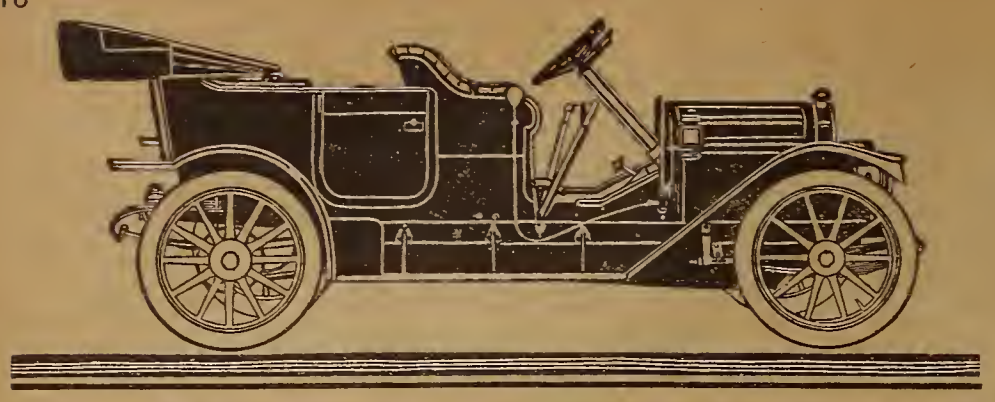

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Here's a car that simply "beats them all" when it comes to climbing the banks and fording streams. It was built for farm conditions, priced to suit the farmer's ideas, and now farmers tell us we have hit the nail on the head.

Why! any man can go crazy over an Abbott-Detroit. We never thought of putting our $1,500 car against the world's famous high priced racers in event contests, but on the spur of the moment we sent one of our stock cars to the Vanderbilt Cup Races, and since then in five weeks have brought home the greatest record ever made by a motor car. In the North, East, South and West Abbott-Detroits have been defying all natural obstacles and raging storms, and electrifying automobilists by winning in all the great speed and endurance contests.

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With that big bold swing that "gets you going," she sails along the highway! A beauty! Think of it—has most of the valuable features of $4,000 cars, 24 painting operations and the lines, the luxury, the endurance. No other automobile can carry our gasoline tank; it has a double feed, giving an extra 25 miles. You can't miss it—if you make up your mind to know what you are getting and then decide to get just that.

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Send for copy of "American Fence News," profusely illustrated, devoted to the interests of farmers and showing how fence may be employed to enhance the earning power of a farm. Furnished free upon application.

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This Practical Farmer's Forge Outfit saves it's small initial cost—only $3.60—in 30 days. With it you can do all your blacksmithing and repairing. Does equally as much work as any $10.00 forge ever made. One farmer writes: "I had never before built a fire in a forge, but now I do all my own blacksmithing and repairing and have invented a Horse Hoeing Machine and made 75 of them on the Farmer's Forge." Another writes: "I wouldn't take $100 for mine, if I couldn't get another."

Special Winter Offer Until March 31, 1911, we offer 1 Farmer's Forge complete, $3.60, or 1 Farmer's Forge, 1 anvil and vise combined and 1 pair of tongs, all for $5.40.

Satisfaction Guaranteed or Money Refunded. Our Farmer's Forges sold 14 years ago are still giving entire satisfaction. Our forges have hearths 24x26 inches, 11½ inch blowers, run easy and have all the first-class qualities of high-priced forges. Fully warranted. Orders shipped promptly. Write today. Send stamp for catalog No. 31 and testimonials.

C. A. S. FORGE WORKS, SARANAC, MICH.

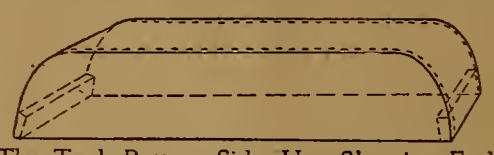
Farm Notes

Home-Made Heating Tank

THIS heating tank is a tried and proven contrivance, being used extensively by farmers here in Oregon for cooking feed, heating water for hog-killing time and boiling lime-sulphur spray.

The materials required are a two-by-twelve plank twice the length of tank required, for the sides; a two-by-six plank for ends, and a piece of heavy sheet-iron as wide and twenty inches longer than required length of tank.

Cut side and end pieces to required length, spike sides and ends together, having end pieces (shown by dotted lines in drawing)



The Tank Bottom Side Up—Showing End Pieces (Dotted)

inside of sides and flush with what is to be the top. Next round off bottom corners two or three inches so that sheet-iron may be bent up without breaking. Fasten sheet-iron on bottom with a double row of close nailing on each side, up ends and along the bottom of end pieces.

This tank must be placed over a pit or furnace box slightly smaller than size of tank so that flame cannot come directly under wooden edges. Then it will never burn out. RUBY HASKIN.

Here's a Marketing Chance

MAKE the most of your opportunities if a construction gang is encamped on or near your farm. We have no trouble in selling to the commissary department all kinds of fresh vegetables, the men preferring them from the garden rather than from the tin cans. Railroad work, canal, road or other big government jobs offer such opportunities. The opening of a new factory often opens good marketing chances to the farmer who goes after the new trade with diligence from the first. Study the nationality of the workmen and cater to racial tastes. Greeks are very fond of chickens and sheep, the Italians love stews, and fresh fish are always in demand. In regions where fish are at all plentiful, a boy by taking a forenoon off can make quite a little money catching and selling fresh-water fish. Watermelons and poultry, of course, appeal most to the negro. WM. A. FREEHOFF.

Books Received

THE ART OF ROAD-MAKING, by Harwood Frost, is a thorough but non-technical treatise on the principles and practice of making roads of all kinds, from the King-dragged dirt road to the concrete city pavement. In the section on country roads the discussion covers their location, construction (with bridges, drainage, etc.), materials, maintainance, etc., with a special chapter on state-aid systems. This is a good book for road-masters, engineers who are not road specialists, and for the general reader interested in the highway problem. Pages, 544; Engineering News Publishing Company, New York City; price $3.00.

The publication of the revised tenth edition of FEEDS AND FEEDING, by Prof. W. A. Henry, is a real event for stockmen. This standard manual has not only been enlarged and brought abreast of the latest proved knowledge in feeding, but it has been entirely rewritten. Part I. discusses the basic principles of the elaboration of food by plants and its use by animals. The chapter on feeding standards and the calculation of balanced rations explains this important matter with a clearness that will be appreciated by beginners. Part II. treats of feeding stuffs, their nutritive and manurial value. Part III., comprising half the book, gives information on the best methods of feeding all classes of farm live stock, chapters summarizing experimental results being followed by chapters of specific recommendations for practice. This arrangement makes the book as handy for the practical feeder to begin with as it is valuable to him later, when he goes on to the intensive study of the principles underlying good feeding. Pages, 613; published by the author, Madison, Wisconsin; price $2.25, post-paid.

Doubleday, Page & Co., Garden City, New York, have issued their 1911 GARDEN AND FARM ALMANAC, containing spray and planting tables, a calendar of farm work, tables of weights and measures and working formulæ adapted to farm use, gardening suggestions and several new illustrated articles. Pages, 222; price 25 cents.

POPULAR FRUIT-GROWING, by Prof. Samuel B. Green, late editor of the fruit-growing department of this paper, has just been brought out in a new edition, having been revised and enlarged by the author shortly before his death.

This book has been previously reviewed in FARM AND FIRESIDE. Pages 300; Webb Publishing Company, St. Paul, Minnesota; price $1.00, post-paid.

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is made of large wires, heavily galvanized. All fittings are of highest quality, malleable or wrought iron. Heavy upright wires are firmly seated in the cables, forming an immovable joint. Easily put up on wooden or iron posts. Made in many attractive designs. We **guarantee it fully.**

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ONE for each month in the year with horoscope of persons born in that month. You and your friends will get lots of fun and entertainment out of these cards. Simply send three two-cent stamps to pay the postage in mailing. We make you this unusual offer simply to get acquainted with others who appreciate post-cards; and just as soon as we receive your letter we will tell you how to get a set of

Fifty Magnificent Post-Cards

all postage and mailing expenses paid. Send three two-cent stamps right away as our supply of these cards is limited; but we guarantee a set of these new Fortune-Telling cards by return mail if you write us at once.

FARM & FIRESIDE, Springfield, O.

Farm Notes

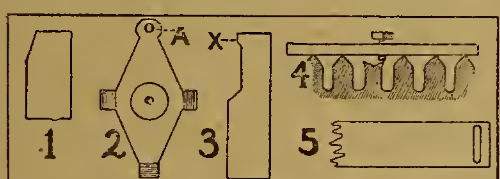
Some Sound Saw Sense

Three experts with the cross-cut saw have something to say to FARM AND FIRESIDE readers in the following letters. Mr. Kemp and Mr. Claussenius differ in the details of their saw-setting; but we believe that simply shows there are two good ways to do it.

THE following system of saw adjustment has been worked out in twenty-two years' experience. The first requisite is a good filing-horse, the front batten loose with wooden dowels outside and thin wedges between batten and dowels to clamp saw. With the saw clamped in this, "joint" the saw. I use a home-made jointing tool on the general plan of those sold by stores. Joint the saw until all teeth are touched by file. Then take the "bur" off the teeth and set.

Use a block of iron or steel about one and one half inches wide and three inches long, with one side beveled (Figure 1, first illustration). Place this against each saw-tooth and with a small hammer strike tooth so as to bend it down onto the bevel.

After you have struck the tooth try it with your gage. I use a gage made as shown in Figure 2. In a center hole is inserted a spool and small bolt for handle. In the upper

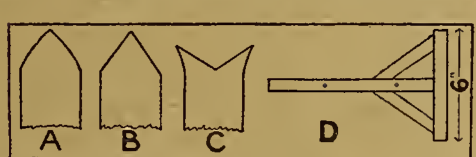


hole (A) is a taper flat head rivet. Bend the other three small projections down and true all up on flat side of emery-wheel or file, then take off a little of lower projection for your set. Try every tooth, and if set too much by hammer, pull it back with a tool with a slot in it as shown in Figure 5. An old eight-inch file will do. The slot fits over the tooth. This can also be used for setting teeth, but short teeth are liable to break.

After the saw is set true fix the drags or rakers. They should be one sixteenth to one thirty-second of an inch shorter than the teeth and their points turned a little toward the ends of the saw (Figure C, second illustration). In this sketch the teeth are drawn greatly enlarged.

Make a gage (Figure 4, first illustration) out of a piece of iron or very hard wood, one fourth of an inch thick and three eighths of an inch wide, six or seven inches long and perfectly straight on the bottom. Through the center of this screw a one-fourth-inch bolt, so it can be adjusted by turning. This gage serves to fix height of the rakers.

Now file the cutting teeth evenly. The more like a knife point they are in side view (see Figure A, second illustration), the better they cut. The more pointed they are



(see Figure B), the more they scratch. Never side-file the saw, for if you thin down the points of the teeth, they will bind in the bottom of the cut.

Here is a handy saw guide if you want one. Figure D, second illustration (Figure D is drawn on a much smaller scale than A, B and C) shows it accurately. It is nailed lightly to the log with the shaft lengthwise of log. Start the saw slowly, holding it against the six-inch cross-piece.

E. CLAUSSENIUS.

Wood-Cutting Made Easier

SINCE "constant care saves repair," we must use our best efforts in felling trees so they can be sawed handily. If the trees stand close together step back eight or ten feet from the largest ones, and hold up an ax helve by the upper end between the thumb and finger to serve as a plumb-line. As the eye passes upward from the center of the base of the tree along the helve, one can judge quite accurately the way a tree leans and where it will tend to fall.

A good steel wedge is an indispensable companion of the cross-cut saw. By the timely use of a wedge a tree may be forced to fall against its natural inclination or an unfavorable wind. After the bed is prepared, saw in about one fifth of the diameter, on that side first. See that the kerf is cut the proper angle to guide the tree in its descent. In cutting away the wood with the ax in the usual way to the limit of the kerf, it is preferable to strike up on the lower side of the kerf, if saw-logs are to be sawed, or posts, so as to have the break straight across. The wedge should always be started before the pinch begins.

It is never safe to saw through a log into the ground, especially hard or frozen ground.

E. D. KING.

Another Sawyer's System

IN ORDER to have the saw run easy and do the best work it must be in first-class shape, and to put it into such shape the requirements necessary are proper tools, time and care.

For fitting I like to use a stand in which the saw can be wedged. The saw is placed in it, the movable board pressed tight against the saw by wedges, and the saw is ready to be "jointed." To do this, place an eight-inch mill file in a jointing tool, which can be bought at any hardware-store, and bend the file to correspond with the curve of the saw. The method I prefer for getting the teeth the same height is to run the file over the teeth until the shortest tooth is touched, so that teeth and rakers, or drag teeth, are all made the same length. On the same jointing tool there is a raker gage.

I like to have them filed down about one half the thickness of a dime lower than the cutting teeth.

To set the saw I prefer to use a monkey-wrench with the jaws far enough to pass over the teeth and bend the tooth out so as to just touch the point on the setting gage marked X (see Figure 3 in the upper illustration). This gage is easily made from a piece of hoop iron. The amount of set you want to give, by which you will shape the gage, will depend on the kind of work you want to do. Place the edge of the gage against the saw and try every tooth until you have them adjusted so every tooth will cut in the same track. In filing the teeth to a point care should be taken not to file too much. File three or four strokes on one side, then the same number on the other, and when getting down to the point one stroke on each side at a time. File at the same bevel as a new saw.

HARVEY KEMP.

Prosperity Follows The Telephone

Prosperous farmers have a telephone in their home. It helps them in emergencies—profits them in business transactions—puts their friends in talking distance. Every time they use the telephone they save or gain in time, energy or money.

Be Sure Your Telephone is a

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and you can be certain of the best service. Always ready—remarkably free from trouble. Thousands of farmers in every part of the country are using them.

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Send the coupon for complete information about Western Electric Rural Telephones. You will find our booklet interesting, instructive and valuable in many ways. Send for it to-day.

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Booklet No. 50

Name.........

Address.........

How to Save Half on Your Tire Cost

Here are tires which, until lately, cost 20% more than the ordinary. All because they can't rim-cut, and because they are oversize. Now these same tires, which save half on one's tire bills, cost no extra price.

We have sold half a million Goodyear No-Rim-Cut tires at 20 per cent more than the price of other standard tires. Last year our tire sales trebled—jumped to $8,500,000.

All because the tires can't rim-cut, and because Goodyear tires are 10 per cent oversize.

Now these same tires—No-Rim-Cut tires—tires 10 per cent oversize—cost no extra price. Our multiplied output has cut the cost of production. All motor car owners should insist on them now.

The 63 Braided Wires

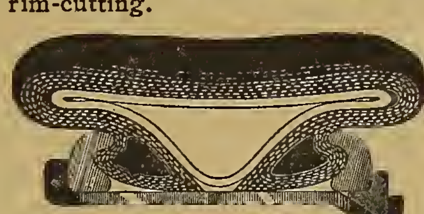
No Rim-Cutting

The picture shows how a Goodyear No-Rim-Cut tire fits any standard rim for quick-detachable tires. Also demountable rims.

Note that the rim flanges—which are removable—are turned to hook outward with No-Rim-Cut tires. There are no hooks on the tire base to hook into this flange, as there are on other tires.

The rounded flange comes next to the tire casing, and rim-cutting is made impossible. Half a million of these tires have been used.

We have run them flat in a hundred tests—as far as 20 miles. Yet there has never been a single instance of rim-cutting.



The Cause of Rim-Cutting

The above picture shows how an ordinary tire—a clincher tire—fits this same standard rim. The removable rim flanges must be turned to face inward—to grasp hold of the hooks in the tire. That is how the tires are held on.

Note how that thin edge of the rim flange digs into the tire. That is what causes rim-cutting. That is how tires are wrecked beyond repair if you run them flat, even for a few hundred feet.

That rim-cutting ruins more automobile tires than any other single cause.

How We Avoid It

The difference is simply this: In the Goodyear No-Rim-Cut tires there are 63 braided piano wires run through the base on each side. That makes the base unstretchable. The tire can't creep on the rim, and nothing can possibly force it over the rim.

When these tires are inflated the braided wires contract. They are then held to the rim by a pressure of 134 pounds to the inch.

That is why Goodyear No-Rim-Cut tires don't need to be hooked to the rim. The rim flanges can be turned to hook outward, and you can't rim-cut the tire.

Other makers, to meet our competition, run a single wire through the base. Or they use a hard rubber base. But neither plan will do. The braided wires, which contract under air pressure, are absolutely essential to a safe hookless tire. And we control that feature.

Goodyear Tires 10% Oversize

Here is another feature which, with the average car, saves 25% on the tire bills.

The Goodyear—while it fits the rim—gives you 10% more tire for your money. That means 10% more carrying capacity. It means, with average conditions, 25% more mileage per tire.

The reason is this:

Motor car makers, in adopting tire sizes, figure on the weight of the car as they sell it and the weight of the passengers at 150 pounds each.

They supply the tire size to support that load, but they rarely leave any margin. They cannot afford to at the present prices for cars.

You may add a top, a glass front, gas lamps, gas tank, an extra tire, etc. And passengers may over-weigh. With nine cars in ten the expected load is exceeded. The result is a blow-out—often while the tire is new. Overloading, with the average car, adds 25% to the tire cost.

We Save that 25%

When you specify Goodyear No-Rim-Cut tires you get 10% oversize without extra cost. That prevents overloading. It adds, on the average, one-fourth to the tire mileage.

We give you this extra size without extra cost to protect our reputation. When tires are wrecked by overloading, one naturally blames the tire maker. We wish to avoid that blame.

There are many other things you gain when you specify Goodyear No-Rim-Cut tires. They are all told in our book, "How to Select an Automobile Tire." Ask us to send it to you.

GOODYEAR

No-Rim-Cut Tires

The Goodyear Tire & Rubber Co., Sixtieth St., Akron, O.

WE MAKE ALL KINDS OF RUBBER TIRES

Branches and Agencies in All the Principal Cities

(134)

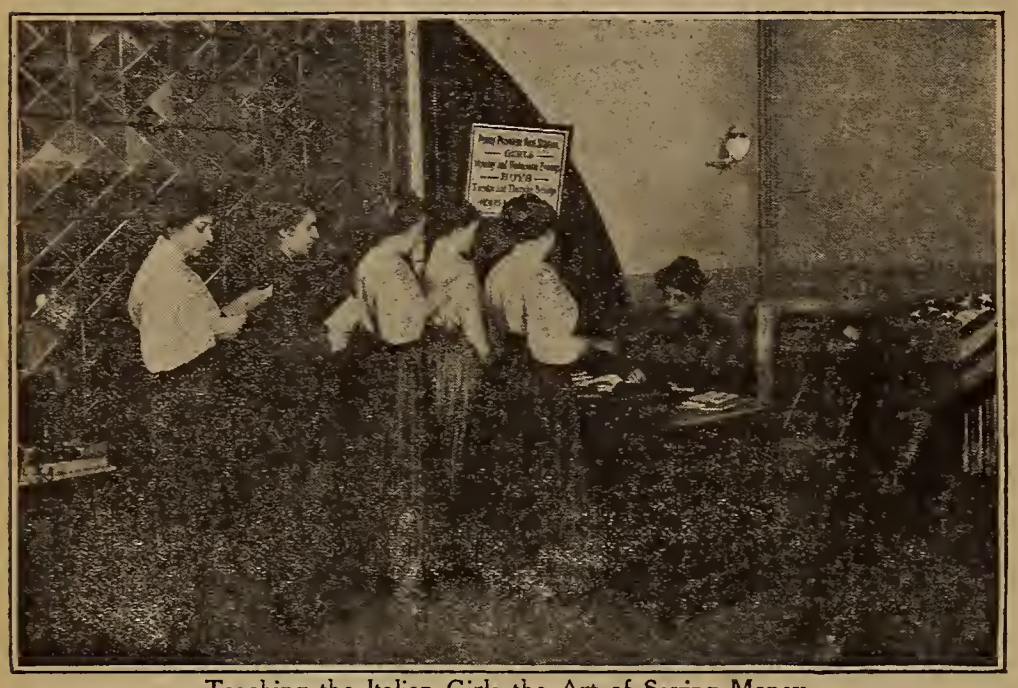
Changing the Italian Immigrant Into a Useful Citizen

Future Presidential Secretaries

The class in type-writing at the Italian House Children's Aid Society, New York. The touch system is employed and the keys are used without characters

Italian Girls Learning How to Cook

Here the girls are taught to prepare an attractive appetizing meal at a very small cost. At present this class is being taught how to prepare a breakfast for six people at the cost of thirty-five cents



Teaching the Italian Girls the Art of Saving Money

Five Points factory girls at Italian House depositing their savings at the Penny Provident Substation

A Practical Lesson in Housekeeping

The girls' evening class arranging the living-room of the one-hundred-and-twenty-dollar model flat at Italian House

Where Evening Hours are Used to Good Advantage

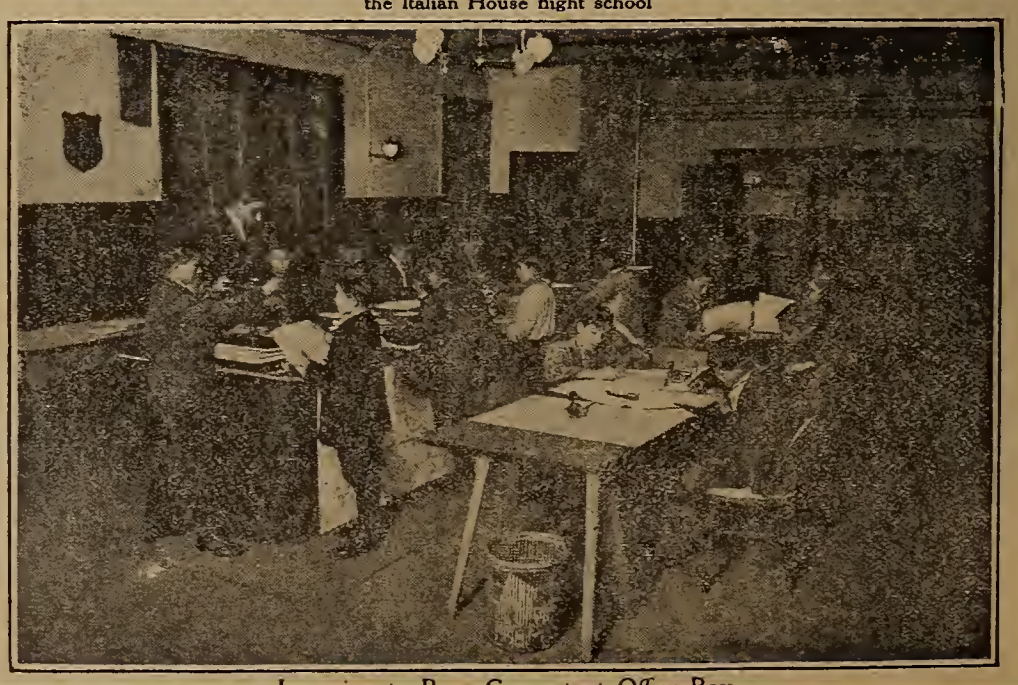
This shorthand class was instituted to meet the demands of Italian merchants for stenographers who could take dictation in their own language

Many of the Younger Men are Taught the Printing Trade

These boys, who are printers' devils in the daytime, are helped up the ladder of their trade at the Italian House night school

The Italian is Quick to Learn the Advantages of Labor-Saving Machines

The class in power sewing-machine work, where garments, bed and table linen are made for the Children's Aid Societies of many institutions



Learning to Be a Competent Office-Boy

The first step in the youthful Italian's business career. Employers report that the boys trained in this school are efficient and industrious

Photographs Copyrighted, 1909, by Underwood and Underwood, New York

The FARMERS' LOBBY.

By Judson C. Welliver

I STUMBLED into a cheering aspect of the parcels post fight the other day. The Interstate Commerce Commission is investigating express companies' rates all over the country, and here is what a commissioner tells me:

The express companies make two kinds of rates. One set has to do with business for which the express concerns must compete with the United States mails. These are made so low that they will take all the profitable business away from Uncle Sam, but on business which cannot be hauled profitably at the post-office rates the express companies don't try to compete at all.

For instance: The Post-Office Department charges one cent per pound for hauling parcels of four pounds and under, anywhere in the United States. No matter about distance; it costs the same per pound to mail a package from New York to Jersey City, as from New York to Seattle.

Now, there is a profit in hauling that parcel from New York to Jersey City, but no profit in hauling it, at the same rate, from New York to Seattle. So the express companies make rates on the profitable, short-distance business, just under the post-office rates, get the business and make the profits. But they leave the long-distance business—and its attendant losses—to the post-office.

That's certainly easy to follow. Now follow it a bit farther.

Good Business—But Not for the Post-Office

THE post-office doesn't take merchandise parcels weighing over four pounds. Hence the express companies don't have to meet competition in this business. What do they do? They boost the rates on this non-competitive business just as high as the traffic will bear, and make huge profits from it.

The Interstate Commission discovered this double system of rates, designed to force the post-office to carry the unprofitable traffic. Investigating farther, the commission decided that, by the intent of existing laws, the government is entitled to monopolize the parcels traffic in packages of four pounds and less. And the story goes that the commission is likely to make an order, directing that express rates shall be reorganized on a logical, reasonable basis, which will give the post-office a chance to get some of the profits and avoid some of the losses.

The effect of such a plan would be, briefly, to wipe out the postal deficit, put an end to all excuse for raising second-class mail rates and to give the postal service a surplus instead of a deficit.

More than that, it would get the post-office fairly into the parcels-carrying business, would demonstrate how profitable that business is and would surely lead to the present removal of the silly four-pound-weight limit and allow the post to carry all sorts of parcels at reasonable rates.

A "Vested Right" to Loot

THAT sounded good to me, and I trotted around to the Post-Office Department to tell it about the scheme. I met a frost. The Post-Office Department isn't sure whether it wants that parcel business! It is fearful that to take all that business away from the express companies might injure their business and ultimately, by reason of reducing their dividends, hurt general business! A high official of the Post-Office Department actually argued to me that whereas in the beginning the government probably intended to enforce a monopoly of the carriage of parcels of four pounds and under, it has for many years failed to enforce such a rule, has allowed the express companies to build up the business, and is now morally estopped from taking back that which rightfully has belonged to it all these years!

Farmers, who are more interested than anybody else in parcels post, should know that a perfect flood of remonstrances are coming to congressmen against any establishment of parcels post, even the service limited to particular rural routes, which I described in my last letter. This opposition is being systematically worked up, supposedly by the express companies. It comes mainly from country merchants, who express the fear that any start toward a parcels post would ultimately lead to a general parcels-carrying arrangement. This the country merchants somehow imagine would injure them.

On the other hand, the farmers are doing nothing. All the letters congressmen receive are opposed to parcels post. Every man who believes in parcels post, limited or general, ought to write to his congressman and his senators demanding it. Now is the time to do it. Congress ultimately acts about the way folks want it to act. If all the showing is on one side, that side will win with Congress. If you people who want the parcels post don't make yourselves heard, you will not get it, because the other crowd is working day and night to beat it.

Speaking of Public Opinion

IT'S a marvel how unblushingly Congress keeps its ear close to the ground these times. Let the public opinion seismograph produce the least faint record of disturbance, and Congress gets as excited as if the whole fabric of our institutions were tumbling about its ears.

Whereof I am reminded in connection with the ludicrous antics with which the Senate is accompanying its efforts to get square with public sentiment on the subject of Senator "Billy" Lorimer of Illinois. You all know about "Billy." He's the blond, blue-eyed, benevolent-looking boss of Chicago. Used to be a street-car conductor; good one, too. Had brains of the real kind. Never had opportunity or means to cultivate them much in the formal fashion, but he rose from car conductor to be a senator and a millionaire, and one of the two most powerful men in Chicago.

Sounds like the fairy story of the good little boy who always "doffs his cap" and says "sir" to you from the pages of the Sanford and Merton kind of books. Well, it isn't that kind. It is just the sordid, mean, discreditable, but typical, story of how bosses are made in American politics.

Lorimer had brains and the faculty of getting on. He rose in the street-car service; got into small politics; became a ward boss and at last the Republican boss of the city of Chicago. Made his millions out of contracting and the like. Went to Congress, and was a representative from Illinois when Roosevelt tried to pass his meat-inspection law. Nobody had ever heard of Lorimer as a congressional factor until then. Suddenly he took up the cudgels for the packers in their effort to prevent the meat-inspection law passing, and the force he mustered was a session's wonder. With a few others of the same sort, he would have succeeded in preventing the legislation but for the tremendous force that Roosevelt put behind the fight for it.

Defeated, Lorimer dropped again out of congressional sight till the tariff session in 1909. The crisis of that session was the fight of the conservatives to prevent adoption of an income tax. One more vote was needed to defeat the income tax amendment.

There was a vacancy from Illinois. The legislature had been for months deadlocked, unable to elect a senator. Powerful Chicago interests wanted certain duties retained in the tariff. Here is the inside story of what is alleged to have happened. I don't vouch for it, but all Washington believes it substantially true.

Safe and Sane Mr. Lorimer

LEADERS in the stand-pat fight against income tax decided that, before it could come to a vote, they must have a senator elected from Illinois, who would vote with them against income tax. These leaders went to the representatives of Illinois Big Business and said in effect:

"You gentlemen want certain duties on your products retained in the law. All right. Get a senator elected who will stand with us against the income tax. If you produce a senator and he is right on income tax, you get your duties as you want them; otherwise you don't."

Whereupon, as the story proceeds, Big Business in Illinois got down to little business. It turned attention to Springfield. At that time "Billy" Lorimer was not dreamed of as a candidate for senator. It would have been too raw, as if Tammany's legislature in New York should elect Charles F. Murphy to the Senate. Lorimer represented everything bad in Illinois politics. But he was "right." He was "safe." That was the sort needed at that moment.

So one morning, without warning, fifty-five Republicans and fifty-three Democrats in the legislature voted for Lorimer and he was elected. The income tax was defeated, and the Big Business interests saved their precious duties.

It must have cost somebody a pretty penny, for about a year later a Democrat who had voted for Lorimer testified to getting one thousand dollars for it. Others confessed to getting from one thousand dollars to about two thousand dollars; others, being summoned into court, declined to testify lest they incriminate themselves.

Enough came out to make apparent—not to prove, mind you, but to convince everybody willing to be convinced—that Big Business had raised the cash and financed the Lorimer election. To this day, no shred of testimony has been adduced to connect Lorimer with it, but of the rottenness of that election no reader of the testimony can have doubt.

So the Senate was forced to order an investigation of the charges. The Committee on Privileges and Elections was ordered to do it.

In substance, the committee found that there was reason to suspect that four votes cast for Lorimer had been "tainted" with bribery; but Lorimer had more than four majority, and so, even if these votes be thrown out, he would still be elected. Moreover, as the committee had not learned of Mr. Lorimer personally handing anybody any money for voting for him, it didn't think he ought to be blamed if any over-zealous friends had bought a few votes for him!

An Unexpected Jolt

IT WAS intended to railroad the thing through, have the report sent in by a unanimous committee and thus end the thing at once. There would be no need of a record vote in the Senate, no embarrassment, no noisome odor.

But it was found impossible to get all the committeemen to agree on the whitewashing report. Most of them were ready and willing. Republicans and Democrats stuck together in the white-wash enterprise, just as they stuck together in electing Lorimer. The two exceptions—the men unwilling to give Lorimer a clean bill of character and to smother up the scandal without a vote—were Frazier, Democrat, and Beveridge, Republican. Frazier was on the sub-committee that conducted the investigation; Beveridge was not. Frazier declined to sign the whitewashing report from the sub-committee to the full committee; Beveridge joined him in declining to sign the report from the full committee to the senate.

All sorts of pressure was brought to induce these recalcitrants to make it unanimous, but they refused. Without a unanimous report, the Senate must vote on it. And that is just what senators don't want to do. It's wonderful how the people watch these roll-calls.

A Memorandum Worth Saving

INSURGENT senators—Democrats like Owen and Gore of Oklahoma, Shively of Indiana, Frazier and others, with Republicans like Borah of Idaho, Cummins, La Follette, Bristow and Beveridge—declared against the scandal of it. Then the country got really busy sending seismographic messages indicating its attitude of mind. Day after day senators heard from home that if they wanted to be reëlected two or four years hence, they would do well to oppose seating Lorimer. At the time I am writing it is conceded to be very doubtful whether the blond boss will get his seat.

Whether he gets it or not, the people ought to remember the men who made that investigation; who made it with the apparent purpose of hiding, not disclosing, the truth; who tried to save Lorimer and to prevent a vote on the proposition. They will need attention next time they run for reëlection. This is one of the most important roll-calls we will have this session. Here it is:

Senators who tried to whitewash Lorimer in committee's report: Burrows of Michigan, Republican; Depew of New York, R.; Dillingham of Vermont, R.; Gamble of South Dakota, R.; Heyburn of Idaho, R.; Bulkeley of Connecticut, R.; Bailey of Texas, Democrat; Paynter of Kentucky, D.; Johnston of Alabama, D.; Fletcher of Florida, D.

Senators who tried to prevent the whitewash in committee's report: Frazier of Tennessee, Democrat; Beveridge of Indiana, Republican.

If you live in a state where any of these gentlemen live, that list is a good one to save. If you don't, just wait till the entire Senate votes on the question, and watch what your own senators do. Then, when they run for reëlection, govern yourself accordingly. That's the only way we plain people can get any action.

POOR RELATIONS

By Adelaide Stedman

Author of "Miracle," "Intellectual Miss Clarendon," Etc.

Illustrated by Herman Pfeifer

Part V.

Outline of Preceding Chapters

MARION and Penelope Martin, who are left penniless by the death of their father, go to New York City to make their living, Marion hoping to be a newspaper woman and Penelope intending to start as a decorator. The girls are alone in the city except for their father's wealthy relatives, who do not wish to be troubled with poor relations. After a visit from their Aunt Clem and Cousin Penelope the girls learn that they need expect no help from them—that they must fight their fight alone. The rich Penelope is engaged to John Hastings, a newspaper editor to whom Marion has a letter of introduction. After many discouragements, Penelope is commissioned to refurnish the home of Mr. Shreve, who lives at New Rochelle.

That week the girls take dinner with their aunt. Their Cousin Fred is the only one present who treats them with courtesy. He takes them home to their hotel, to the great annoyance of his haughty mother and begs permission to call some time, for he seems to have taken a sudden fancy to Marion. The following Monday morning, the rich Penelope and her mother stop in to see John Hastings at his office. He asks Penelope to give her reason for not announcing their engagement. She makes some trifling excuse and at this point her mother hurries her away. No sooner has she gone than Marion is announced and presents her letter of introduction to Mr. Hastings. He has no idea that she is related to his fiancée, for the two girls decide to conceal this fact. Marion's extreme youth, and the fact that she is thrown on her own resources in a strange city, touch a sympathetic chord in John Hastings' big, manly heart, and he appoints her a society reporter on his paper. Just when things are beginning to look bright for the girls, and Penelope is going ahead with her plans for refurnishing Mr. Shreve's home, something unpleasant occurs at Pierces' which prompts Penelope to send to the firm her resignation. After a wretched week of fruitless attempts to find another position, she receives two letters—one from the lawyer of her uncle Stephen, who lives in St. Paul, stating that he refuses to accept the money on the mortgage on their father's house, and one from Mr. Shreve, begging her to carry out his commission privately. Once more the sun shines for the two girls, and at Marion's suggestion Penelope takes the mortgage money, which amounts to two thousand dollars, and starts as a decorator on her own account.

Penelope sends her business card to Mrs. Martin to the great annoyance of that lady, who finds that it bears the same name as that of her daughter. She is enraged to have her daughter's name flaunted in trade. The next day she gives a tea, and among the guests is Comte De Feronac. In a private conversation with Penelope in the library, he speaks of love to her, but she tells him that she is already engaged. At this point John Hastings enters the room. When the party is over there is great excitement in the Martin household, for Mrs. Martin discovers that her jewels have been stolen. In the meantime Marion is doing very satisfactory work on the *Chronicle*. One afternoon while she and Mr. Hastings are talking in his office one of the electric fixtures above his head falls. Marion springs to the center of the room and pushes him aside just as the heavy fixture falls.

Chapter XIII.

SIX weeks had passed since the girls' coming to New York and each was beginning to settle into her own groove. Also, into the thoughts of each a man was intruding, and close as the sisters were, no hint of such a thing was ever given between them.

During the first weeks of Penelope's decorating venture many of her aunt's friends had stopped in at her office to make inquiries, as they said, but in reality to inspect her personally, as she soon discovered. However, a few gave small orders, enough to enable the girls to live. To Penelope the one commission of absorbing interest was Mr. Shreve's house, which was rapidly becoming "the home" she had planned.

One glorious Monday morning, keen with the winter's chill, she took the train for New Rochelle. After driving along the now familiar road, she gazed with pride at the house which she was transforming. Painted white, solid and dignified, it looked not unlike the old colonial homes of the South. Inside, boxes, crates and furniture in various stages of resurrection were piled in the now uncarpeted and dismantled drawing-room, while the odor of fresh paint, varnish and oils pervaded everything.

In pity for Mr. Shreve she had completed the library first, and on this day as she entered it, a warm glow of satisfaction brightened the smile with which she greeted Mrs. Bellamy. "Good-afternoon," she spoke cheerily, "well, do you approve of the new room?"

The old lady's faded blue eyes looked a little tragic. "I think it is a little hard for old people to accustom themselves to change," she sighed, "I'll not deny that this room is very cozy and pretty." Her glance moved from the soft-toned velvet and leather to the bright bits of brass and the dull-finished picture-frames. They were indeed an improvement on the old beloved ugliness. "It will grow on me, I think," she smiled resignedly, "but oh, my dear, I shall never like this polished floor. An ice pond is safe in comparison."

"I hope the men didn't polish it too highly." Penelope anxiously tested a portion of it, then smilingly shook her head at the quaint old lady who was watching her so dubiously. "You will even grow accustomed to the floors," she asserted, "besides, think how much more hygienic they are than the old dust-filled carpets."

"Ye-es," Mrs. Bellamy assented, "that's what Mr. Shreve said. You must have told him, my dear, because ordinarily he doesn't know as much about housekeeping as his beloved Micawber family. But to tell you the truth, he is so pleased with this library and your plans for the rest of the house that he hasn't any eye for danger—none at all."

The girl laughed, "Well, then, I'll get to work. I believe the paper-hangers and carpet men are ready to begin on the bedrooms. May I go right up?"

"She shrank behind the . . . clump of palms . . . and a second later Hastings and Penelope passed by"

"Do, Miss Martin, and before I forget it, Mr. Shreve said he would be home for tea and to please ask you to stay, so that you could talk things over."

"I will be glad to." Penelope's eyes were bright, and as she ran up the broad stairs she hummed a snatch of a popular tune.

Suddenly Mr Shreve's voice sounded. The girl flew to a glass and in a few moments with genuine ingenuity she made herself presentable.

Mr. Shreve greeted her in the library doorway. "Miss Martin," he exclaimed, "you are a genius! How did you know that if I have any special preference in household arrangements it is to have the electric lights look like candles, if they can't be the genuine article. These five-branched candlesticks are exquisite."

"I didn't know you liked them, but they have always seemed a friendly style to me. I am so glad you are pleased," the girl responded with smiling lips.

"Pleased! I am delighted! Why, every evening I say to myself, 'Arnold Shreve, do you realize that when you get home you are going into a room which is as comfortable and as cozy as a man's fireside can be?' George! I wonder how I will feel when the whole house is finished. I wouldn't make it too attractive, Miss Martin, or I may be tempted to stay at home all the time and send my business to the bow-wows." He laughed genially, then said cheerfully, "By the way, Mrs. Bellamy asked me to make her excuses to you. She was just called to a neighbor's and won't be back in time for tea." His voice was anything but regretful.

Just then the maid brought in the tea-tray with its heavy load of old-fashioned silver.

"Won't you do the honors, Miss Martin?" Mr. Shreve requested.

Somehow Penelope blushed, but she slipped obediently into the chair beside the table. "What a quaint old teapot," she exclaimed rather irreverently.

"It has a queer story," Mr. Shreve replied, a quizzical light in his eyes. "It was bought originally for Lady Anne Shreve, an ancestor, who lived during the American Revolution. You know those were rather awful days, especially for the supporters of the poor king, and the Shreves were stanch Tories. But, to return to the teapot, one day a party of Continentals (the family lived in Georgia then) came to the manor-house in search of an important paper Sir Arnold Shreve was supposed to have. It was about four o'clock when the band appeared before the house, and in point of fact Sir Arnold was holding that very document inclosed in a little brass cylinder in his hand. He was about to be off with it within the hour. However, when the soldiers appeared, he knew their purpose, and quick as a flash my lady threw the tube with its precious contents right into the teapot. The men searched the house from cellar to garret, then when they returned to the hall, crestfallen and disappointed, bless me if Lady Anne didn't offer the officers a cup of tea out of that very pot. Imagine how demure she must have looked, the minx!"

Mr. Shreve paused while they both laughed, then went on: "From that time the teapot has been held as a family luck symbol and it has been a custom that when the heir of the house becomes engaged he invites his fiancée to come to his home and there, in the presence of his family, she pours tea from the old pot as an augury of future good fortune."

"What a pretty custom," Penelope murmured, her cheeks hot, but not from the tea.

"Yes, isn't it?" the man went on innocently, "my wife wouldn't conform to it, she said she didn't believe in superstitions." He sighed a little, then queried with sudden eagerness, "Do you approve of old customs, Miss Martin?"

"Indeed, I do," Penelope faltered, "we need a little poetry in these practical days."

"You are all poetry," the man asserted, "your voice is as soft as the velvet you have put in this room." He was looking at her earnestly, evidently unconscious of the simple directness of his words.

Penelope seemed to have no answer for his remarks, so she poured another cup of tea instead, and was so confused that she kept on pouring until the beverage overflowed into the saucer.

Just then Mrs. Bellamy came hurrying in, exclaiming, "My dear Miss Martin, I was so afraid you would be gone! I almost forgot about my shelf for the bisque figures! It ought to be put up immediately, ought it not? Will you see about it right away?"

"Certainly, Mrs. Bellamy," Penelope rose with alacrity, "you will pardon me, Mr. Shreve?"

He nodded gloomily, and with an almost angry flourish pulled a handkerchief from his pocket, bringing with it a small notebook. As he picked it up he stared at the upturned page, murmuring, "Bless my soul!" with the utmost amazement, for written across the white sheet at least twenty times was the name Penelope Shreve.

Blankly he remembered having taken the book out on the train that afternoon. His face reddened until it resembled the red morocco cover of the little memorandum, and he exclaimed once more, "Bless my soul!"

Chapter XIV.

ON THE day following the last visit of Penelope to the Shreve homestead Mr. Shreve wandered into the Union Club at about five o'clock, that hour when the feminine species turn to the tea-room, and things masculine to the haunts of clubdom.

Mr. Shreve sank into a massive brown leather chair by a window. A table with an ash-tray, matches and his newspaper was at his elbow. Apparently everything which wheedled comfort into existence was present; still the man frowned. Once, and that not three months ago, this particular brown room in the Union Club had been his idea of a man's paradise, but now he contrasted it rather scornfully with a certain blue room in New Rochelle. It was the home touch that made the difference he decided. How cheerless the club-room now seemed. Then suddenly he smiled and sighed in quick succession, sighed so loud that a gentleman in the next chair curiously lowered his enshrouding newspaper.

[CONTINUED ON PAGE 33]

SUNDAY READING

The Value of an Old Friend

By Rev. Charles F. Weeden
Pastor of Harvard Church, Boston

It is fine to have a friend, a wise and loyal friend. If we know what real friendship is, we understand that it does not mean flattery, but a personal interest in us that helps, corrects, sympathizes and inspires. That personality may come to us through the printed page. Such a friend has FARM AND FIRESIDE been to hosts of readers for over a score and a half of years. Its form is as familiar as a human face and its voice you have learned to cherish and to depend upon. By the light of the evening lamp and around the hearthstone blaze you have read its pages and it has talked in a friendly tone to you about your farm and household. A really good paper is meant to stimulate discussion and prompt to improvement. A sermon fails which sends you away content with yourself. The Bible isn't a sugar-plum, but a medicine-chest. Your faithful FARM AND FIRESIDE editor is the truest kind of friend when he clears your land for larger crops and taps you on the shoulder to awaken you to make the most of your acres. He appreciates your helpful suggestions and applauds your enterprise. "No man," said Stevenson, "is useless who has a friend, and every man is indispensable while he has a friend." As an old and tried friend FARM AND FIRESIDE believes in you and counts on your friendship and desires to make more than ever its pages indispensable to your homes.

Make new friends, but keep the old:
Those are silver, these are gold.

. . . . . .

Friendships that have stood the test—.
Time and change—are surely best.

"What is the secret of your life?" asked Mrs. Browning of Charles Kingsley, "tell me, that I may make mine beautiful, too." He replied, "I had a friend." Friendship is religion. Christianity is founded upon it, for it is a religion of love. Affection warms and sweetens life and makes it beautiful. The value of an old friend is that they

Have a Common Experience

and for that reason there is free interchange of thought and feeling. You can "think aloud" in the presence of a friend. Everyone can have a friend who will show himself friendly. While we are kindly disposed toward all "mere numbers would not prove that you were rich in friendship." We choose a few out of many.

Friends are like melons. Shall I tell you why?
To find one good you must a hundred try.

It requires but a moment's thought for you to understand that you may count your dependable friends upon the ten fingers of your hand.

Amid the troubles and sorrows how comforting it is to rest in the affection and sympathy of an old friend. What this old world needs is kindness and love. How many disheartened and lonely people there are, and how many find solace and peace in the heart of a friend.

No one is so accurst by fate
No one so utterly desolate
But some heart, though unknown,
Responds unto his own.

Some day we will find that friend. A common sorrow, a mutual burden, a like destination, a neighborly kindness, unity of purpose, oneness of aim will often educate us to friendships.

Valuable friendships are kept under control and a true friend is always discreet and does nothing that will compromise virtue or stain character. A true man will never use his friend for selfish ends or ask to be upheld in the wrong. There is a proper limit to the familiarity of friends. To pass by these limits is the danger of a railway engineer running by a red light—there's a crash coming. Beware of so-called platonic friendships. Friendship should be a sheltering tree, not a violent cataract. Parents should know the friends of their children, especially should mothers be the mentor and guide of their daughters in the choice of friends. Every father should be his son's chum.

This above all—to thine own self be true
And it must follow as the night the day
Thou canst not then be false to any man.

And everywhere and anywhere we should cultivate a broad-minded spirit of friendliness like the farmer-poet who said:

"Let me live in my house by the side of the road
And be a friend to man."

Friendship is as mysterious as it is beautiful. When the army of Israel was watching the fight of David and Goliath the people applauded the deed of bravery, but Prince Jonathan's insight was deeper. He understood David by a kindred feeling. It was face answering to face, heart beating with heart. Both young men were heroes. It took the noble in Jonathan to discover the noble in David. We say opposites attract each other, but there are the deeper undercurrents of thought and feeling by which soul is knit with soul. It was the unselfishness of Jonathan that won David. In all the subsequent peril of their lives Jonathan appears as the model friend. He remained "tender as a woman and yet true as steel, overflowing with generous kindness, utterly devoid of selfishness, trusting as much as he was trusted." When Jonathan was killed in battle David cried out of his heart, "Thy love to me was wonderful, passing the love of women." The world has admired this noble friendship and has extolled the Jonathans and Davids as they have repeated themselves in the heroic life of the world. Some Achates and Æneas, Castor and Pollox, Damon and Pythias, Washington and Brother Jonathan Trumbull, Lady Somerset and Frances E. Willard, husband and wife, Christ and the Christian and many true-hearted souls in humble life have illumined, exemplified and exalted friendship's ideal.

What is the

Source of Abiding Friendship

David and Jonathan acknowledged that it was a divine alliance. "Go in peace forasmuch as we have sworn both of us in the name of the Lord saying, 'The Lord shall go between me and thee.'" We cherish the hope that all friendships may lead to a grateful recognition of the source of all human felicity and true personal affection. Friendships of the world will fail where the higher friendships hold. Your friend is not perfect, but the loftier conception overlooks his fault and rejoices in his virtues. God's love is eternal and they that put hope and trust in Him are bound by a far-sighted and everlasting covenant.

I would flood your path with sunshine,
I would fence you from all ill,
I would crown you with all blessings
If I could have my will.

Aye, but human love may err, dear,
And a power all-wise is near,
So I only pray, God bless you
And God keep you thro' the year.

Most important is it to be like Abraham, the friend of God. The Master said, "Ye are my friends if ye do the things I command you." What wonderful friendships He had from the rough fisherman to the tax-gatherer! What a "great human" He was! In that strong book, "The Rosary," the lover-nurse blindfolds her eyes for hours and sits doing nothing, alone, eats by herself, gropes in darkness, waking in the morning to the same blackness she has had all night that she might understand the difficulties and trials of the blind artist whom she served and loved. There was no other way. Their hearts met in Sightless Land. So the Prince of Heaven has entered human darkness and pain that He might show Himself our friend, understand the depth of our human woe and guide us into the light.

We ought to appreciate our earthly friends. They cannot stay with us always. Thank God daily for your friends. There are separations and lonely hearts. It may be helpful to toil on holding in our fond memories the past, but still we long "For the sound of a voice that is still."

One of the gracious benefits of Christ's visit to the earth is the glad assurance that in our friendship with Him we have hope of reunion in the eternal home. There shall be no more sea, to separate us; we shall go no more out forever. Without friends our world is dark, but the presence of Christ is ever our light and comfort.

So long thy power hath blessed me, sure it still
Will lead me on
O'er moor and fen, o'er crag and torrent, till
The night is gone,
And with the morn those angel faces smile
Which I have loved long since and lost awhile!

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Farm and Fireside, Springfield, Ohio

Live Stock Atlas and Handy Manual
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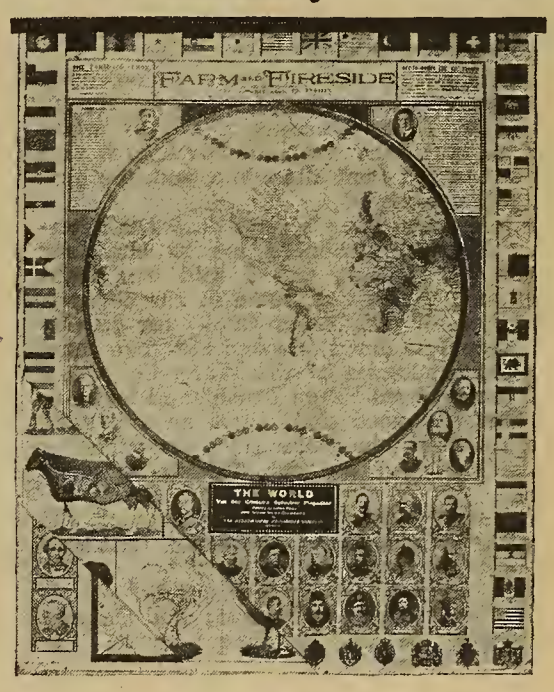
FARM AND FIRESIDE'S new Live Stock Atlas and Farmers' Handy Manual, which is now ready for our readers, is a marvel of practical information. For instance, it includes five different charts of the horse: First, showing exterior parts; second, the bones; third, the veins, or circulatory system; fourth, the muscles, and fifth, the internal organs. Each part, bone, vein, muscle and organ, is numbered and each number corresponds to a key number in the index so that the youngest school boy can refer to the chart and give you the name of the anatomy of any of your farm animals. There are four similar plates, one each for the cow, sheep, hog and chicken. The Live Stock Chart is on second page of the Atlas.



A Map of the World

is shown on the first page of this Atlas. This map shows all the countries of the world, the routes of the successful Arctic and Antarctic polar expeditions, all steamship routes, all ocean currents, the heat equator and isothermal zones. Bordering the map on this page are the flags of the nation in their actual colors, and pictures of the rulers of the world.

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The Farmers' Handy Manual

portion of this work contains a volume of miscellaneous information including nearly every subject from a recipe for preserving fresh eggs to a formula for concrete construction.

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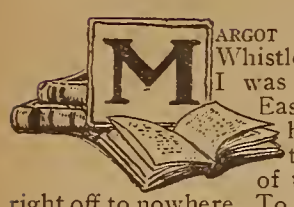
An Experiment in Match-Making

By Winifred Kirkland, Author of "The Home-Comers," "Polly Pat's Parish," Etc.

Illustrated By Frances Rogers

November 6th.



Margot first happened to me at the Whistler exhibition seven years ago. I was doing the exhibition for the Eastern. I had my paper pretty heavily in mind, for it was in the days when I was still afraid of the chief, when suddenly I went right off to nowhere. To stand on a mysterious unknown quay at night all alone, to hear the lapping of unseen waves against the shore, to gaze into the blue darkness until out of it grow shrouded mast and ghostly rigging, to gaze on into the blue until the pale little stars bud softly there, to feel the salt night wind blow to you out of the nowhere—to stand all alone at night with the sea and the sky and the ghost of a ship—suddenly some one turning around from the picture bumped right into me!

"I beg your pardon. I didn't see you," she said.

"You mightn't; I'm small," I said, aside, not turning from the picture. Margot herself was, and is, very big indeed. I felt that her eyes dropped the dreaminess of the painting for a keen look at me.

"You're another, aren't you?" she said. "I wish I didn't have to go."

The next day the same thing happened.

"Do you come every day?" she asked.

"I try to."

"So do I."

When they turned us out of the exhibition rooms that day we went and had tea together. It took us an hour and a half. At parting Margot said, "By the way, if I'm to come to see you Sunday afternoon, I'd better know what name to ask for."

"I'm Laura Kavanagh," I said.

"I'm Margot Clay," she responded. "Sunday it is, then," and went tramping away under the electric lights, hands in the pockets of her long brown ulster, bumping into some people, swinging wide of others, not seeing either.

Margot's bigness filled my little room that Sunday afternoon. We were both still in the hall bedroom stage of art and literature. Margot was strong and brown and twenty; she sat looped at ease over the iron rail of my bed while she talked. I moved about gingerly in the small space left to me and the tea-things. We were studying each other all over, and inside. I have always liked people who have brown-black hair drawn straight back, and big hands.

"'She was the smallest lady alive!'" quoted Margot, looking at me. "Tell me, when may I paint your hair? You're all hair, did you know that? When I squint at you this way, all I can see is a scrap of a girl walking around under a great whity-yellow thatch. It's an awfully good thing in the sunlight."

I had to glance at the mirror. I don't look in it often, and fortunately I forget in between times what I see there—a splash of white under all that hair, and little black eyes that jump out at you from the white, and, the luck of it, pale eyelashes!

We told each other a good deal that afternoon. Margot introduced me to her four brothers in Tacoma, and I told her about Hester and Queenie at home in the country. We've been all girls in our family for generations. I confess that I'd looked Margot's name up in the catalogues of the Water-Color and that I remembered "Sage Brush" and loved it. And Margot owned she'd spent an afternoon in the reading-room looking for my Whistler, and had guessed me out, though I wasn't signed.

"You write just the way you look," she enlarged, "but not the way you talk. But then you don't talk much, do you ever?"

"No," I owned, "I can't bear to talk."

Still I've talked to Margot; and because she scolds me so for being quiet, I've talked to other people, too, a little, sometimes.

Since that Sunday afternoon until this winter, New York has never been lonesome. Of course, things are changed with us both now, but these things do not make so much difference as we both used to think they would. We have a studio and a maid and a flat-top desk, with drawers many enough for me and my manuscripts to get lost in; and occasionally we have a reporter, as, for instance, when Cowley bought Margot's "Street Lights" or when I have a book come out. I've had just three. I don't write novels fast, and they're not novels that everybody reads either; only a few people read them very hard. Margot hates my books as honestly as I love her pictures. I wonder if I could ever write anything that she would like. She hates my bookshelf, too. She came in from riding one day and took her whip and poked all the gentlemen she hates in out of sight.

"You're the Lady of Shalott," she said.

I jumped up, so angry that we were both frightened. I don't know why I was so angry at having been called that just because I've a fondness for twentieth century poetry, and just because I like to write things that are a little remote from every-day life—things a little too delicate and fanciful for Margot's taste!

I am ashamed that this winter New York is lonesome again, after seven years. I am thoroughly ashamed. I wasn't really prepared for it at all. It happened in August, and I suppose I was so occupied with Hester that I didn't take in all that Margot's letters last summer told me. Hester was more difficult than ever during my last vacation at home. She's been a growing problem to me for some time, but now that she's twenty she's worse than ever. I am ready to help her to do anything that she wants to do, but she doesn't want to do anything, and she doesn't want to stay at home and do nothing either. She's dear and sweet, and she's grown to be very pretty besides, but I found the poor child last summer so restless, unhappy, morbid. It seems to me simply pitiful when a woman full of energy and brains and all that hasn't any one special talent to keep her straight. Fancy what life would be for me if I didn't have my writing! Of course, it is obvious that a girl like Hester ought to get married, but there isn't a soul in the country for her to meet and get married to. Meanwhile Hester is just a mass of undirected brain and emotion. I am going to have her here this winter for a while. I wonder if she could put her soul into book-binding.

The reason why New York is lonesome is that now, when I turn in on a November evening and find Margot stooped to watch the colors the cannel-coal is taking in the rosy grate, Hester all in crimson, short-sleeved, short-waisted, bare-necked—I know when she gets up and turns around to me, all tall and stately, that the shine in her eyes isn't for me at all; I know that Haddon Orr is fast on my heels in the elevator!

Ever since I first knew Margot she has always maintained that out of all classes and types, out-of-door artists and traveling salesmen are the most marry-able of men. She looked at me lately with impish eyes and said, "Now that I'm going to prove my theory by marrying an out-of-door artist, suppose you try to prove it by marrying a fine fat drummer boy, little Fair-and-faint-and-fragile."

"I knew I was the most selfish woman in the world"

November 15th.

We have been talking a great deal about Hester. Fortunately for me Margot is not so absorbingly engaged as some people are. At least she does pretty well in sympathizing with me in my anxiety about my little sister. She quite agrees with me that marriage is the only thing for a woman not absorbed in a career, but how to marry Hester, and to whom? We have gone over all the men we know, but none of them will do. They are the men Margot knows, strictly speaking, for I never have known men. I'm hopelessly a woman's woman. I always sit in a corner and make the tea when Margot and I have our afternoons at home. Of course, it's a little unfortunate for me professionally, not knowing men. I realize perfectly that the men in my stories are not exactly vitalized, and Margot says they are all shadow-knights out of Spenser. But Hester is not at all like me, for men like her—that is, the few men who have seen her. The more Margot and I talk the child over, the more it seems as if all Hester needs is a man and a little propinquity. And it is for us, Margot and me, to provide the man and the propinquity.

November 17th.

"But," I wailed to Margot to-night as I was drying my hair before the grate, "since you've got Haddon Orr, there isn't any man left for Hester."

Margot clapped her knee. "Tim!" she shouted. Tim is Margot's next nearest brother.

"But would you mind," she went on, sobering, "that Tim's a merest dry-goods merchant, nothing intellectual about Tim, nothing esthetic. He's no talking ghost out of your old pseudo-semi-demi-medieval romances. He's a man and a merchant!"

"But he's in Tacoma," I said.

"I can get him out of Tacoma. He's always been planning to come East. Business is slack after Christmas; he can leave it with Bob for a while and come here and walk the shops in New York. Why shouldn't a man walk the shops and learn things just as a doctor walks the hospitals? I'll write him. I'll get him. I'll tell him it's his last chance before Haddon and I go to live in Florence."

"Shall you tell him anything else, Margot?"

Margot's eyes had all sorts of little meditative twinkles and sparkles in them.

"I don't know," she said. After a minute or two of reverie she suddenly continued, looking at me, "Are the dry-goods choking you? You look as if you were trying to swallow the whole shopful. You don't want a big gross shopkeeper for Hester? There's nothing ethereal about Tim."

"I don't think Hester would mind," I answered evasively.

"But Laurie would?"

"It's Hester's affair. We aren't match-making for me. I'm settled."

"Yes, worse luck!" admitted Margot. "I wish nobody would ever buy your old die-away books. Then perhaps you would'nt go on writing them for a whole lifetime that might be better employed!"

At that we were icy for a whole half hour. I felt abused. Margot is so rough-handed sometimes. Her lack of intellectual sympathy (she has plenty of the other) hurts sometimes. If loving a man is at all like loving another woman, only more so, then it seems to me that any man I might have loved when I was younger would have had to like my stories. Of course, Margot and I couldn't stand the silence more than half an hour. At the end of that time I said in a humble tone, "Do you believe he'll really come?"

"I'm sure he will," Margot responded heartily.

January 20th.

And he did, three days ago.

Hester was with us two weeks before Tim came. It is always very cozy to have Hester around. Margot and I are not really domestic, though we try to be. When Hester is with us, flowers grow out of unexpected vases, and missing hooks and eyes mysteriously reappear in their appointed places. But this year Hester's visit has been different from her visits of other winters, for the poor child has been so pathetic. Her old delight in a good time seems to be gone entirely. She has been quiet and really touchingly sweet, but Margot and I have tried in vain to bring back her old baby enthusiasm for things. She has gone dutifully into the book-binding, but she doesn't care. However, after her quiet country existence, I have great faith in the efficacy of city streets and the interest of a daily out-of-the-house employment. But yet as I watch Hester I am forced to bank more and more on Tim.

He arrived a few hours before Margot expected him. Hester and I had been out for a January walk, and coming in and hurrying toward the fire in our little studio-study-parlor we found in the biggest armchair—Margot in man's clothes! We did our best to make him at home, of course, and Hester especially came to the front with a warm welcome for Margot's brother who had come all the way across the continent to see us. They have been at ease with each other from the very first minute. As for me, I haven't yet recovered from the peculiar shock Tim's presence gave me, for he is so absurdly like Margot that I felt as if he must be Margot masquerading in coat and trousers. The resemblance is so strong that it makes me feel dreamy and unreal. I have to keep checking myself all the time because I am constantly on the point of talking to Tim just as freely as if he were really Margot. They have so many things in common, the same way of slapping the knee when they're pleased, the same big laugh, the same big white teeth, the same big eyes, only Tim's eyes are not so keen to see things as Margot's.

It developed very quickly—that is, Hester found out that Tim was frightfully hungry. It was still two hours till dinner, and mere tea would have been an affront, so before I knew it, Hester had us out in the dining-room and was developing wonders in the chafing-dish, and Tim, with big elbows on the table, was watching her with eyes both hungry and delighted. Thus Margot found us when she came in—Hester standing over the chafing-dish at one end of the table, all warm and glowing with her walk and her cooking; big brown Tim at one side gazing at her, and me, unregarded, but very happy in regarding the other two, obscurely spreading sandwiches at the other end of the table.

January 29th.

Tim has promptly found a boarding-place near us. Just as Margot walked into my life, unceremoniously but utterly in one brief hour, so from that first afternoon it has seemed as if Tim has always been part of our domicile. Slowly I have realized that he isn't so much like Margot after all. He isn't a bit clever, never makes witty speeches. A year older than Margot, he seems ten

years younger than either of us. He has none of Margot's artistic talent; knows what pictures he likes, that's all. They are invariably of the chromo-lithograph variety. As to his reading, he seems to have but one author in his mental library, and that is Dickens. His conversation is studded with Dickens. It was very queer to me at first to know a person who really believed in Dickens. Fortunately for the success of our plans and purposes, Hester is well up on Dickens, can catch the obscurest allusions and locate it in its proper volume.

February 5th.

To-day I have had a curious shock. I came upon Tim seated at the study table, elbows upon it, knotted fists at his temples, forehead knotted, too, bowed over a book. Hearing my step he shut the book up quickly and shoved it under a pile of magazines, his face reddening and the queerest expression in his eyes as he looked at me. I couldn't make out the expression at all until afterward. When Tim was gone I couldn't help pulling forth the book he had been ashamed of—and it was my own "Keith of Ewern!" Then I saw Tim's eyes again, and I understood, and I covered my own eyes up, and my cheeks were so hot that it seemed as if they would burn my hands. The book had been lying half open when Tim saw me. He must have been reading at the fountain scene, the sun just at dawn, when Keith finds the forest-girl. I never thought of it before; I never thought any one could understand it so, but perhaps, if you had taken it literally and had not seen the underlying allegory, you might have thought that—

"'I'm half sick of shadows,' quoth the Lady Shalott!" Oh, I wish Margot had never called me that; I hate it so!

This evening Tim seemed to be quite natural, but I wasn't. Just before she went off to bed, Margot found me with my head under the lowest shelf of the linen-closet.

"What in the world are you doing, little Scrap?" she inquired.

I got up and turned around. "I'm putting away my books; my own, I mean."

Margot didn't say a word; she just gave me one look out of her eyes that are so like Tim's, except that they see so much more than his do.

February 15th.

I believe I never saw two people better suited to each other than Tim and Hester, and to all appearances they seem to be of the same opinion. Really, our match-making almost loses zest, it is so easy. As I chaperone the two in the various entertainments Tim has discovered for Hester (I really didn't know New York was capable of such diversity of amusements until this gentleman out of the West discovered them) it seems to me that Hester takes the whole thing very lightly. Sometimes I wonder if she really appreciates Tim.

February 25th.

Hester continues to make all sorts of things that Tim likes to eat. I've discovered only one thing I can do that Tim likes. I can read aloud—by Tim's choice, "Pickwick Papers." Tim is as happy as a small boy with "Pickwick." He knows it by heart, and several pages in advance he begins to chuckle, subterraneously at first, then higher up until the big laugh bursts right out of eyes and mouth. Tim makes me laugh if Dickens doesn't.

We have very cozy stay-at-home evenings often, we three, Hester, Tim and I, gathered about the dining-room table, Hester sewing, Tim listening and laughing, throwing back his head and slapping his knee sometimes. My Dickens education progresses in spite of me.

We three are relegated to the dining-room because Haddon Orr and Margot hold the studio.

March 12th.

But sometimes our evenings do not feel cozy at all. I mean, I am the one who does not feel cozy, and it is selfish of me, selfish, selfish! Sometimes when I consider my Margot and Haddon Orr in the studio, all engaged, and my Hester and Tim Clay in the dining-room all but engaged, it occurs to me that it's almost time for me to slip off to bed. Number Five is such a very odd number! To be sure, when I rise to go, Tim and Hester always protest most civilly; one might almost think they really wanted me to stay. It is out of consideration for my feelings that Tim goes home and Hester follows me to bed so soon after. But I wish I didn't have any feelings to be considered. When my Margot is marrying a Haddon and my Hester is marrying a Tim, I certainly ought not to mind being Number Five.

March 20th.

I am writing another book, and I think it is different; it is modern anyway. I think the man in it is alive. And I'm sure the woman is!

April 18th.

I have been stupid as well as selfish, and to my own little sister! I thought Hester was feeling better, happier, more like herself. I thought so, I suppose, because everything has seemed so much brighter and more cheerful since Tim came. But Hester isn't better, she's worse! She sleeps with me, and last night I knew by her lying so still with just the faintest little gasp now and then that she was crying. It was awfully still, and the electric light through the shutter made bars of brightness on the wall. I couldn't speak to Hester. I knew she knew that I was crying, too, and we just lay there and never spoke, until, as the milk-carts began to rattle over the pavement, Hester went to sleep.

But to-day I decided that something must be done. I waited to talk to Margot, and at last I got her alone, our two selves alone in our own precious little home, just like old times, without any Hesters or Haddons or Tims about.

"Margot," I said, "I'm tired of this!"

"Tired of what, little Scrap?"

"Tired of men hanging around!"

"Scrap, what do you mean?"

"Hanging around without proposing! I'm tired of Tim! I consider it's time he said something."

I didn't know that I was going to say this, and I didn't know whether I was laughing or crying. Margot just looked at me with eyes big as millstones, but they were very keen.

"He's been around here for twelve weeks, and every day and all day with Hester, and I don't see why something doesn't happen, and it's awfully hard on Hester."

"Why?"

"She cries at night. And I don't want anybody to be trifling with Hester, not even Tim. I want my little sister to be married—and happy."

"Tim isn't trifling," said Margot quietly.

"Well, it's your match-making anyway. Can't you hurry it up?"

"Yes, I think perhaps I can," said Margot calmly, adding after a pause, "especially as it's partly my fault. I've been telling Tim to go slow."

"But he wanted to go fast?"

"Oh, yes, Tim always makes up his mind in one minute, and sticks to it forever after. I knew he'd be just like that about marrying."

"Then you'll tell him he may go as fast as he pleases?"

"I'll take him walking this very afternoon."

Match-making is so easy it isn't even interesting. Really I don't see why I was in such a hurry. When I get Margot married off, and Hester married off, what's left for me? Nothing but writing. I hate writing! I believe I'm tired, not sick at all, just tired; sometimes this spring I feel so tired that it seems as if nothing in life would ever make me feel rested again.

I think I never walked so fast or so far or so long as I did this afternoon. I don't know where I walked except that I didn't walk in the park; Margot and Tim were going there. It began to rain at last, but I kept on walking and walking until at half-past six I decided I might as well go home. I turned my latch-key very softly and stole to my bedroom. I heard voices in the studio—one was rumbling and masculine, the other voice was Hester's, and oh, it was so high and happy! Just as I closed my door I heard her laugh as I hadn't heard her laugh since she was ten, and hearing that laugh and looking at my draggled self in the mirror as I lighted the gas, I knew I was the most selfish woman in the world—and oh, the tiredest!

Then there came a little scurry of steps to my door; it flew open. "I thought you would never come!" said Hester. She was all in white in the doorway, teary, radiant, flame and sweetness, my own little sister turned into something that frightened me, it was so lovely. I took her two little icy, thrilling hands, and at last I forgot to be selfish!

"I am so glad, darling!" I said.

"You know?" she asked.

"How could I help knowing when I look at you?"

"It is so beautiful, and it seemed so long to wait," she whispered.

I drew her down on the bed and held her tight a long time. At last she moved to get up, catching my hand to draw me after her.

"Come," she cried, "he's waiting to see you."

But I cried out, "Not yet! Not yet!"

"Why not?" asked Hester, her starry eyes dilating with surprise.

"I can't," I whispered, feeling a little faint. "Tell him—tell Tim—"

Hester dropped my hand, backed away, regarding me with utter amazement.

"Tell Tim! Tim! Tim! It isn't Tim!"

"Isn't Tim?" I think I tumbled over on the pillows, really and truly faint now.

Hester was down beside me. "How could it be Tim," she asked, "when I'd seen Sid first?"

"Who?" I managed to gasp.

"Sidney Thorpe. No, I know you don't know him. I just couldn't tell you. He's visited at home for years. Only I thought he was never coming again. Then he did come—here—to-day. He couldn't stand waiting any better than I could. Come and see him—but oh, Laurie, how wet you are! Where have you been?"

It was not merely my skirts and shoes that were wet at that minute, nor for several minutes after. There had to be a good deal of drying off before I was ready to see Sidney Thorpe.

Just as Hester was giving me a dab of powder on my nose and a kiss on my mouth at one and the same time, I managed to stammer out—for the world had turned so topsy-turvy—

"But you were to marry Tim. Margot and I sent for him on purpose!"

I think Hester shot up a foot taller, and her eyes, which are really so mild, had a fine fire in them.

"Thank you!" she said. "I'm much obliged, but I think I am able to take care of myself!"

I thought so, too, when I saw Sidney, big and red and raw-boned—and a man! Freckles and wide gray eyes that you could trust to the very bottomless bottom of them. He wasn't a Tim, but if he and Hester loved each other—

I managed to get hold of Hester a moment before dinner, for I was worried to death. "But who'll tell Tim?" I asked her. "I'm sure he's going to propose to you this very night."

"No, he isn't, for I won't see him!"

"But—who will? Who'll tell him? There's no keeping a secret in this house!"

"Isn't there?" said Hester, meaning by her smile that she had kept one pretty well for three months. "But, of course, some one must tell Tim. You must."

"Never, never. I can't stand seeing how he'll look."

"You must!" repeated Hester. She had grown terribly masterful since Sidney Thorpe's arrival.

When Margot came in for dinner, she said so, too. I must be the one to tell Tim. Margot had dropped Tim at the door, but he would be around for the evening we knew. I implored Margot to tell him, but she not only would not listen, but went off with Haddon Orr to the theater right after dinner. Hester was inexorable and retired with Sidney to the dining-room, leaving me altogether alone, at the mercy of any caller, in the studio.

I never felt so lonesome in my life as I did there by the studio fire. Haddon and Margot had gone off to the play in a glow of gaiety. I could hear Hester and Sidney in the dining-room, and their voices were so glad that it hurt. And here was I, waiting by the fire to say something to Tim (Tim of all people!) that would make him feel as lonesome as I was feeling myself. Yet in one way perhaps it was right that I should be the one to tell Tim, for I could understand how he was going to feel about it.

At the stroke of half-past eight he arrived. He came hurrying into the studio, tugging off his overcoat and looking so big and warm and happy that I could hardly stand it. I had my speech all ready, but it all depended on his asking where Hester was, and he never asked! Instead he said, "I'm so glad to find you by yourself, Miss Laurie, there's something I've got to ask your advice about. I've got Margot's advice all right, but I'm not quite sure. Anyway, it seems to me you're the person who could advise me best, and so I've come to you. Will you?"

"Yes."

He fidgeted a minute, swallowed, then put his hands between his knees and started in. At first he hesitated. His eyes were shining, but they were awfully anxious, too.

"If you wanted something, Miss Laurie, more than you'd ever wanted anything or ever would want anything—if, perhaps, you could get it by jumping at it quick, and perhaps that way you'd lose it forever—and if, perhaps, you could get it by waiting and working it for years, and perhaps that way you'd lose good time when you might have had it—would you—jump for it or wait?"

I was so sorry for him that I could hardly speak, because, of course, I knew that all he said meant just Hester. I decided that it was best to go straight to the point at once, and I said, "It won't do any good either way, either jumping or waiting."

Tim's face is so round and boyish that I never dreamed he could look so old in a second.

"Are you sure?" he said.

"Yes. I know. I didn't know myself until to-day or I'd have told you before. It happened only this afternoon."

"What happened?"

"The other man."

"The other man?"

"Yes," my heart seemed just torn out with pity. "I didn't know Hester had another man."

"Hester! Hester!" and his tone was exactly like Hester's earlier in the evening when she had said in such surprise, "Tim! Tim!"

"But wasn't Hester the thing you said you wanted so?"

"No!"

Then I saw something in Tim's eyes that made me shut mine, for something somewhere inside me snapped, and I felt sick and queer and sank down in my chair.

After a while I said, "But, Tim, how can you? Nobody ever did before. Men don't, you know. Men don't like me."

"Fools!" growled Tim.

And after another long while I said, "But I can't cook things in a chafing-dish."

Tim said something which seemed very violent about chafing-dishes.

And for my life I can't remember that we said anything else, although I'm sure we talked ever so long. I'm sure that Tim never said he loved me, or asked me to be his wife, or said any of the things I've always thought men ought to say when I was writing books.

I don't believe I've managed to put Tim into this story. I don't believe I ever could put Tim into a story, because he's Tim. But that book I'm writing now is going to have a different ending from the one I planned. And I'm sure the book is going to be different from the others, too; anyway, it isn't being written by any Lady of Shalott!

This is all, I guess, except what Hester said. I went in to her when she was undressing, and I just said, "And now, Hester, I have something very special to tell you!"

"I know," Hester answered, "I've known for twelve weeks."

But that wasn't so strange as what Margot said. I went to her room in my kimono. She was standing in her long red opera cloak, so big and beautiful that I just put up my arms around her neck, and it seemed to me as if we both felt all the preciousness of all our seven years together in that one moment; and when I became more tranquil I whispered, "Margot, it wasn't Hester."

"Wasn't it?" And I looked up to see the laugh in her eyes, and then I drew the two edges of her opera cloak over my head again. And then I came out, and I was laughing myself, and saying, "Isn't it funny how differently our match-making turned out from what we planned!"

Margot's two hands were clasped behind my back, and she looked down into my face, and she emphasized her pronouns outrageously as she said, "*My* match-making turned out exactly as *I* planned!"

THE END

THE AGATE BOX

The Love Secret of a Stern Old Judge

By Paul Crissey

MY GRANDFATHER was a judge of the supreme court of the commonwealth. Clothed in the dignity of his lean, almost classic face, he measured the voice of the law, while the battle-worn flag of the Union hung impressively behind him. He was a severe man to look upon, a man to respect.

Rugged and lean of face, with certain sharp, almost hard lines, he seemed to be difficult to approach, and my life with him was one of habitual silence, but of certain, distant, unspoken comradeship.

I was only twenty-five years old and very much in love, and as a result I was spending most of my time earning money and trying to provide for a home of my own. We lived alone, my grandfather and I, in a big, stately old house in the heart of the city and it was here that every evening we exchanged a few words of greeting; had a short, sharp fusillade of argument over public affairs and ate our supper together. We seldom exchanged personalities and never confidences, partly because there seemed to be no provocation for doing so, and partly, no doubt, because I had early come to think of my grandfather as a man far removed from the commonplace and emotional matters with which young persons are apt to be concerned. To be frank, my grandfather's face was too austere to invite any of my shy little secrets.

I had been fortunate in love and business, and planned, as the fall chilled slowly into winter, to bring my home dreams to the bright focus of realization. And yet I disliked heartily to do so without first consulting the old judge, who had been, since my father died, my only relative. I was his only heir, though I had always disliked the term as well as the idea. By all the canons of family and personal courtesy it was due him to know, beforehand, that the chances were he would have to spend the remainder of his days in the big house alone. This I fully realized, and yet I hesitated to open the subject with him.

"He shall come and live with us, Morton," my intended wife had said, and I, rather dreading the prospect of his dignified, severe company, had answered bruskly:

"No, dear, I shall never ask him. I do not want him in our home—he is quite used to solitude and, I believe, quite content with it." And, in spite of Elinor's kindly insistence, I had withheld all knowledge of the perplexing situation from the old judge.

I had seen him judicially indifferent when those who thronged the court-room wept audibly; I had seen him, with immovable features and severe, searching glance, send men to prison, when his decision had been their last hope and his court their last haven; I had seen him, equally tranquil, sentence a man to death on the gallows—and ever as I saw these things, I thought that stern old Judge Burleigh, my grandfather, lacked that spark of human kindness which burns, or should burn, in every man's heart.

And in view of these facts I had no mind to ask him to live with me in my future home or even to hint to him that I was contemplating marriage.

Night after night, as we sat before the grate fire in our big, lonesome house, I had tried to gather courage to tell him, but somehow the sullen roar of the city about us had emphasized the firm, unsympathetic lines of the old man's face, and each time as I tried to put my little love affair into words, I thrust the difficult task aside with a shudder and answered briefly some abrupt question of his about some doubtful action of the Senate.

On these nights I often longed to tell him of the beauty of the lady of my love, longed to confide to him the catalogue of her graces, of her queer little characteristics and her great goodness—and each time I would resolve to do so the thoughtful, far-away, yet alert eyes of the old judge would turn upon me in their grave coldness and scatter my courage. Sometimes his face would light, momentarily, with a look of slight, disturbing wonder, and I would cover my apparent confusion by hastily piling another well-trimmed stick upon the fire. In all it was the great severity, the forbidding lack of warmth, in the old man's face that held me back.

What would he know of dainty little mannerisms, of soft, warm hands or of a witchingly lovely face with lips so tempting? Nothing! I answered myself, as each night came and went and he remained stiff, stately, detached.

It had always been my grandfather's habit, of a winter evening, to sit before the fire and smoke an old pipe that reeked of age and use. But it had for him a fascination and I often imagined he came to some of his most important judicial decisions while looking through the blue, uncompromising smoke that curled up from his ancient pipe.

With aching impatience I watched the days go by while the thought of my duty to tell him all haunted me, as did the gentle voice of Elinor when she asked me, time after time, whether I had yet told him.

The holidays passed. The snow on the dirty streets piled higher and I imagined that the months of the winter had begun to tell like long years upon my grandfather.

Finally, one night, when the wind swirled angrily down between the gulch-like walls of the street, I raised my head from its restful position in my hands and gazed in unconcealed astonishment at my grandfather. It was nine o'clock and we were sitting before the open fire, and my grandfather was not smoking!

I could hardly believe it. It was a startling break in the established order of things; but what was more astonishing, there was an unaccountable change in the visage of the old man. My pulses jumped. His face looked strangely softened and my heart gave a strange leap. But finally my fear passed. Now was the time to tell him. I wanted to blurt it out, but reconsidered and started more tactfully.

"You are not smoking to-night, grandfather?" I remarked, a trifle constrained, perhaps.

"N-o." His answer was slow, deliberate, thoughtful. "No, I'm not smoking to-night, Morton."

"Why not?" I asked. It was a most unusual, a most personal conversation for us and I momentarily expected him to end it bruskly. But he answered and his voice was low and soft, and, strange to say, my heart warmed suddenly to this fine, honorable old judge, severe though he was.

"For several reasons," he said at length, "and they may all be very foolish ones. It seems to me that when a foolish old man needs the blue curling smoke to start his imagination moving he is fast becoming too inhuman to enjoy the dreams that come of it. Of late my pipe has carried me back, somehow, in a strange way, and I have gone over again the days before your mother or you came to me. It all is very strange, Morton, and I have decided that if it be just tobacco-smoke needed to bring back memories, those memories cannot be very real. So, my boy, I am going to leave out the old pipe for a while and test the realities of memory."

He turned his face slowly back to the blaze before him as he spoke, and I could see, almost clearly, the channel his mind was working in. He was trying to force those memories back with the pangs of self-denial as the penitent scourges himself with his own hand. I was astonished. I had touched upon a strain of hidden gold in this old mountain of severity. It pleased me and I leaned eagerly forward to tell my plans.

"I gathered her closely to me, while the agate box remained clutched in her hand"

"Don't, lad," he said impulsively, as he saw my movement, "I know what you are going to say, what you want to say. Why, Morton, I've seen it in your eyes, your actions, in everything you have done and said in the last six months. I know, boy, and I'm glad because you are. I know what you think of me, but I'm just a bit different than you suppose. I've judged you rightly, haven't I? You haven't given me a full measure of justice. But then there's no harm in that, my boy, for it was only kindness in you that kept it back. Now, wasn't that it, really?"

I fancied his eyes watched eagerly, longing for an answer in the affirmative, and I answered truthfully:

"Yes, grandfather."

It was a new grandfather here beside me on the hearth and I loved him. He was a comrade now, a companion, and he filled a long-stifled hunger in me.

"Every gnarled tree, rough and harsh though it may be on the exterior, has a heart that is softer than the rest of its body. Every prickly leaf has a soft flow of life through its veins. So it is with me, Morton."

He smiled a trifle sadly while I only stared at his wonderful evidences of perception. It was just what I had thought of him, only I had taken little account of the softer part.

He leaned forward slightly, and sideways the least bit, while his hand sought the pocket of his smoking-jacket. When he drew out the object which bulged his coat, and my eyes rested on it, there seemed to come vaguely to my nostrils the scent of magnolia blossoms—the subtle ghost of a fragrance, as it were.

It was an oval-shaped box, covered, top and bottom, with a thin slab of blood-red agate that glowed dully against the gold edges. My grandfather held it lovingly in the palm of his hand for a moment or two and the bright firelight flickered over his severe features which, strangely enough, had softened marvelously.

The simple, artistic lines of the little box appealed to me strongly as did the chapter of my grandfather's life which he unfolded to me. Love's heart-throbs thrilled in the old man's quiet voice as he told me his story, our first confidence.

"It was way down in Virginia," he began slowly.

"I knew it," I cried, "I smelled the magnolias." And for answer my grandfather opened the box and I saw what was within. It was a magnolia blossom, crushed, withered and dried—only a shadowy ghost of its former beauty and fragrance.

"It was back in the time before the war. I was a young man, barely over age, yet with every notion that I knew quite as much as my elders. Not an uncommon occurrence! We lived in a big house about half a mile from Colonel Trotwell's summer place. He was our only neighbor and when our family went calling, as we often did, we usually chose the colonel's place because it was nearest and because it was also the most interesting place available. At least it was for me, for it had an attraction which no other neighbor's home had—a girl.

"And she was a fine girl, too, Morton. Quiet, unobtrusive and beautiful, and I believe I would rather have spent a half hour with her back in the orchard than to have been made president of the United States. I know, now, that I would.

"Well, things ran along quite sedately until one day a young man came up from Kentucky to visit the Trotwells. He had all the advantage and charm of city manners and city clothes and, all-in-all, he was quite a fine young fellow. Naturally the little girl over at Trotwell's showed a great interest in him. As for myself, I disliked him decidedly. I regarded him as a trespasser, though I had no right to do so, and looked upon him from the first as an enemy. I had an idea that no one but Elinor and myself had a right to the paths of the Trotwell orchard and it hurt badly to see this young man from the city stamp out my footprints in the orchard. But I stood it for a long time—stood it quietly until, one day, all the black rumors of armed rupture between the North and the South which had been flitting angrily about the country were confirmed. Needless to say, my sympathies were with the North and I shortly made that fact known. It stirred up a whirlwind of reproach, anger and protests, but I stuck to it with determination. Colonel Trotwell sent Sam, an old family slave, over to see me. We called him Old Sam because no one knew just how old he was.

"'Young Marse Burleigh, Colonel Trotwell says ez how you-all ain't t' come ovah no mo',' Sam announced, and I only nodded. I had expected as much, but had somehow hoped that time might change the peppery colonel's mind.

"'All right, Old Sam,' I answered and went on cleaning my gun. I was going away to join the Union cavalry the next morning.

"And that evening, as I sat on the big gallery, I heard the bitter twang, twang of guitars down in the negro quarters and heard their voices singing madly some wild song. Poor fools! They realized as little as children the mad disaster that had come upon the nation.

"Well, the music was just a little too much for me, so I laid down my gun and crept quietly up to my room, where I remained until dusk, trying to think what I should do. Finally, after dark, I slipped unnoticed from the house and wandered down through the nearest cotton-patch to the edge of our land where it joined Colonel Trotwell's orchard. The cotton looked white and ghostly in the moonlight and a dry, musty stillness was in the air.

"I leaned against the fence thinking hard, trying to decide whether or not to go over and see Elinor and have it out with her father. I wanted to—I wasn't afraid of him—but I wanted to do what was right. I was only trying to find myself.

"There were a few magnolias growing near the fence and somehow their intense sweetness sickened me. All of a sudden I heard voices, the clanking of a saber and the swish of a skirt. It was Elinor and the young man from the city. How I hated him! He was in uniform and I straightened up and strained my eyes in the semi-darkness to see its color. I knew it would be gray—and gray it was, as I clearly saw when the pair passed slowly through the stretch of moonlight. I felt very weak, very faint—but I decided what to do. No longer would I hesitate.

"With one hand on the top rail I cleared the fence and ran hurriedly by a round-about way to the Trotwell house. Somehow the big, white pillars along the gallery looked cold and uninviting, but my blood was up and I had no eye for such signs. I opened the door and stepped in. Elinor and the young man from the city had not returned and I walked into the big living-room. Old Sam stood there and his eyes grew big and bulging with apprehension when they fell on me.

"'Good Lo'd,' he gasped. 'De cunnel suah will kill you!'

"'No he won't,' I answered sharply. 'Tell Miss Elinor I want to see her alone in here when she returns—alone, Sam, do you understand?'

[CONCLUDED ON PAGE 31]

Valentine Parties and Games

With Clever Suggestions for Making Your Own Valentines

By Mary Dawson

GIRLS who feel discouraged about attempting a Valentine jollification because they live in the country or are limited in the matter of pocket-money, should have been among us one Valentine Day at Meadowmead farm.

Everything, if we had been of the easily discourageable sort, seemed rather forbidding. King Winter still reigned in snowy majesty out of doors; we had but a couple of dollars, so we all had to look to our girlish wits to help us out. Yet it proved the merriest sort of a party.

Our entertainment committee numbered four—two visitors from the city, the country hostess and the most obliging of small boys and brothers.

A Successful Party

It was this fourth member who made a tour of the countryside seven or eight days in advance of the frolic and verbally delivered the invitations, requesting each boy or girl who accepted to send in before the appointed date one or two little valentines or valentine letters, to be delivered through the Valentine Post-Office.

Some of the clever and pretty things sent in, as well as others that we prepared ourselves, in order to have the mail-bag interestingly heavy, I will describe later.

For the post-office itself we used a folding clothes-horse covered with calico, save for the window space. For the window we employed a grocery box minus top and bottom which was placed inside the clothes-horse on a low table. Above the window hung a red letter sign decorated with hearts and arrows, which read

St. Valentyne, Hys Poste
Februarie 14, 19—

One of the committee, costumed as the queen of hearts, acted as postmistress seated on a chair behind the little window. The queen wore a regal mantle made of a sheet decorated with red hearts and had a gold pasteboard crown on her loosened locks.

As soon as the guests arrived some one reeled out a gay tune on the piano, and we all formed in line to march to the post-office. The postmistress would deliver but one missive at a time, so that we all marched a second and some a third time to collect our letters.

After the march came the fun of opening one's mail and guessing from whom it came. Such speculations delightfully filled in another quarter hour, after which we had a

Valentine Picture Puzzle

The puzzle was made up of a dozen comic valentines, the kind still found in any country store, which we bought for a dime. These were cut into pieces of all shapes and sizes and thoroughly jumbled. We divided the pieces and placed them in four dinner-plates and put one plate on each small table, together with a bottle of mucilage. As the company numbered twelve outside of the committee, who did not enter into this contest, we had four tables, three seats to each table. Each player received a large square of cardboard on which to paste the pieces. Players were assigned to their first table, but could afterward, if the possibilities seemed exhausted there, exchange with another player at any other table who was similarly situated.

The player who was first to correctly build up a valentine received a dainty booklet (described later on) as a prize.

When cleared of the picture puzzle we used the tables for a very hilarious card game—Blind Hearts. This we played exactly like Blind Euchre—that is, everyone played without once seeing his own cards, which were held face out and were perfectly visible to everyone else but the player. Tricks were taken entirely at random, and were as guiltlessly lost. The prize was the most delicious of jelly-cakes from the home kitchen baked in the form of a heart.

Finding Valentines

Soon after the awarding of this trophy, the small boy of the committee distributed folded slips of paper to all members of the party. The girls' slips were of blue paper, and the men's of pink tint. When all were distributed, the company was invited to "match up and find their valentines." What was the amazement on opening the slips to find no sentimental quotations, no lovers of bygone days, but such homely terms as "Corned Beef, Oil, Cheese." However, a comparison of the papers revealed the fact that Lamb found its affinity in Mint Sauce, Oil in Vinegar, Pepper in Salt, Corned Beef in Cabbage and Bread in Cheese, and after a general laugh and much hilarity valentines for the ensuing games were quickly arranged.

A Contest in Mending Hearts

This was where the man of each pair of valentines received a piece of pink paper muslin and a pair of scissors with which he was required to cut out a heart. A large rent was made in the heart-shaped piece of muslin and this his partner was required during the next ten minutes to darn as neatly as she could, using sewing-materials provided by the hostess. Prizes were awarded to the couple producing the best heart shape and making the neatest darn, and forfeits were imposed for the worst.

In another good contest the partners were called upon to produce either a valentine love poem or a valentine story, whichever one they chose. The story or poem had to be formed of the word slips which were found in a basket on the table in front of each one and which were merely headlines clipped from back numbers of periodicals, afterwards separated into their component parts. The cleverest production in either class of endeavor won a pretty valentine bookmark for each contestant.

In a competition of another kind each girl, looking very pretty as she did it, wound into a ball a skein of worsted, which her gallant held for her on his outstretched hands. The pair who were first to show a tidy-looking ball comprising an entire skein, as a result of their joint labors, were rewarded as before.

This brought to an end all the games we had specially planned for the occasion, but some bright mind clamored for a waltz or two. Immediately the center of the big room was cleared of tables and chairs, the rug rolled back and the girls of the company took turns at the piano during the next half hour, while the rest danced to many favorite old waltz melodies and two-steps.

In the first dance, each gallant led out the valentine with whom he had played the partnership games, and later on escorted her to supper.

Table Decorations

The supper-table—that is, the embellishment of it—was something of a problem until an obliging neighbor offered to lend for the occasion a beautiful pot of begonia in bloom. We covered the pot with pretty green moss found in the woods and used the plant for a centerpiece. All around the pot we grouped a circle of pink cardboard hearts, having as many hearts as there were guests at table. These hearts had original riddles written on the reverse side, and from each radiated a streamer of five-cent ribbon, which proceeded to the cover of some guest. Here it terminated in a gilded pasteboard arrow which served as place-card. The table looked most attractive and we girls felt quite proud of our work.

For any one who cannot obtain natural flowers of any description, I would suggest purchasing one of the little ten-cent flower patterns sold with tissue paper goods and making crêpe paper roses. These arranged in a low bed of ivy leaves or pine sprays would be attractive and the riddle hearts can be grouped around such a centerpiece in the same way. We made over cardboard foundations for our supper-table four large pink paper flowers of the hollyhock family which formed boxes and which were posed at the corners of the table to hold respectively fudge, tiny sweet pickles, sugared pop-corn and candied orange-peel and ginger.

Riddle Hearts

To return to the riddle hearts. The conundrums on the reverse side related in every case to some member of the party. At the conclusion of the feast the men drew ribbons and received questions regarding the girls, and the girls vice versa. Foolish queries they were in every case, but always good-natured and mirth-provoking. For example, it was asked of one young girl (who happened to have a devoted admirer by the name of Witte) why she could never be at a loss for a bright retort. The answer was that she always had her Witte about her.

Again of a young man studying law who was of a pleasantly disputative tendency and chairman of the local debating society it was asked, "Why does Mr. S——— resemble Dutch cake?" The answer was that he was so full of good "raisins."

For the repast itself we had hot clear soup with little hearts stamped out of bread and toasted. Then came some delicious chicken-salad beautifully trimmed with hearts cut from cold boiled beets and sweet pickles; soda biscuit and coffee. This course was followed by floating island served very cold in small glasses, the meringue being colored a pretty pink with currant-jelly. It was passed with heart-shaped cookies.

After dessert the little sweets and relishes in the flower-boxes were circulated. The menu was a satisfying one for a cold night as well as delicious.

Valentines and Prizes

A word about the valentines, which for home-made articles were rather ingenious.

A specially novel creation was a gray dove bearing a message. The shape of the dove (represented as flying) was first cut from cardboard. This was then covered with pale gray tissue paper folded and creased to suggest plumage and lightly sewed into place. The bill and tiny feet were tinted rose color, and whether or not ornithologically correct, the result was very pretty. The little valentine billet-doux was attached to the dove's feet with baby ribbon.

For a funny valentine, we took a blank card (or a square of cardboard), and with red ink ruled it off into wide lines. On the lines we wrote the following jingle:

No poet I, nor good at rhymes,
Read, prithee, Love, between the lines.

Between the lines we painted in with water-color rows of wee pink hearts. When a morsel of ribbon had been drawn through perforations at the top and tied in a smart bow, the effect was quite striking, I can assure you.

Flower Valentines

One of the girls was very clever at ribbon-flower making. She fashioned three or four charming little pansies from the merest ends of colored ribbon. These we mounted on a card with this inscription in gold ink: "There's pansies. That's for thoughts. From Your Valentine, February 14."

A picture of a boy wearing a dunce-cap, which we clipped from a magazine advertisement, inspired another poetical flight. We mounted him on the outside of a little cardboard folder, added with pen and ink a blackboard on which only the letters I and U appeared. On the inside we wrote this explanation:

I know of letters only two,
Dear Valentine, but I and U.

Again from cardboard we made a little folder, this time circular in shape. The two outside covers were tinted to represent the hemispheres with continents, as in a school atlas. On the inside the following lyric effusion was inscribed:

Thou art all the world to me;
Let me be all the world to thee.

Pressed flowers make charming valentines and tiny dried ferns can be used in connection with them. A simple but pretty one was made from, or rather decorated with, some dried pansies from the window garden. We cut the folder out of colored cardboard in the form of a double heart, creased together in the middle. On the inside we neatly pasted the pressed flowers. On the outside was written in fancy lettering with gold ink, "Open My Heart and Read My Thought."

Valentine Booklets

For the valentine booklet given as a prize in one of the games we cut two heart shapes separately from cardboard to serve as covers, and for the booklet itself similar shapes in thick white paper. With a leather punch we made two holes through which to pass two pieces of ribbon to hold the booklet together. The ribbon was tied sufficiently loose to allow the pages to turn back easily. The outside cover was decorated with a design of arbutus and in fancy lettering the title, Valentine and the Poets. On each page was written a verse from some poet relating to love or St. Valentine's Day. The names of the authors were given and the ribbon used to bind the book corresponded in color with the flower on the cover.

Two simple yet not unattractive prizes were valentine bookmarks made from scraps of ribbon fringed at both ends and decorated with a design of violets painted on in water-colors with the day and date lettered in gold.

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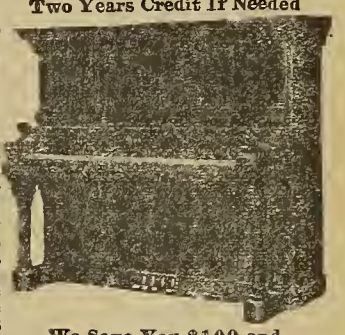

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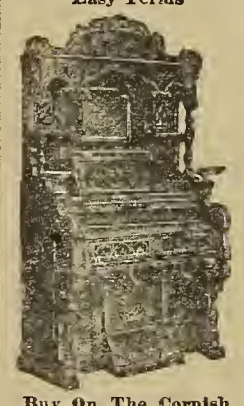

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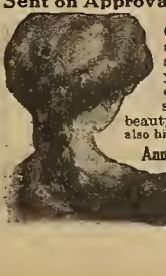

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Raising Plants on the Farm

Suggestions for Preparing the Early Vegetable and Flower Garden

By Samuel Armstrong Hamilton

THERE is no reason why any farmer's wife (who usually does the growing of plants, if any) should not grow her own plants, both for the flower and vegetable gardens. The equipment required is small and easily made by any one who can handle a hatchet and saw, as most farmers can. There is no question but what the average farm-garden is not what it could be, were more attention paid to the proper growing of plants on the farm.

The old tomato-can is not the proper thing in which to grow your plants, especially not the place in which to sow the seeds. Any one can make a flat for this purpose, and nothing can be better. A flat is a wooden box, and, when especially made, is of the following dimensions. Twenty-four inches long, twelve inches wide and two and a half inches deep. But these dimensions, excepting the depth, are not empiric. You may take a canned-goods box and saw it off two and a half inches from the bottom, and you will have a flat, which will do as well. Or, you can make a long, narrow one which will fit on an ordinary window ledge by sawing off a box in which window-shades are received by the dealer, two and a half inches from the bottom. Such a flat is especially good for the farm-home, where the boxes have to be set in the windows, from lack of a hotbed or cold-frame. Do not plant seeds in pans, cans, pots or similar receptacles which are more than three inches deep.

Every farm which makes a specialty of a home or truck garden should, of course, have a hotbed or cold-frame, or both, and even a small greenhouse will more than pay for itself, where there are many plants used, or a market for their sale. But this paper will treat of the farm-home in which these are not present. There should be, in addition to the seed-flats, a supply either of pots of two-and-a-half-inch and four-inch sizes or other flats into which at the proper time to transplant the young seedlings.

The practice of allowing seedling-plants to develop in the receptacle in which the seed is planted is, generally speaking, a bad one. This is predicated on the reason for transplantation of plants. Why do we transplant? The answer is: In order to increase the root-growth, especially the fibrous feeding-roots. This applies to even the hardy plants, shrubs and trees, which it is the practice of the nurserymen to transplant, at least twice, before offering for sale as first-class plants, and it applies with double force to the plants which the farmer's wife grows for her home vegetable-garden. In addition, let me say that plants developed in pots, after having been sown in flats, are worth twice as much as those transplanted into other flats. Pots are not expensive, and it will pay all who grow plants to keep a supply of them on hand.

The shifting of plants from one pot to another, when the smaller one is filled with roots, means the same to the plant as does the transplanting from one flat to another, but there is better root development in the pots.

The soil for the seed-flats need not necessarily be very rich, but it should be loose and porous, and filled with humus. In fact, it is possible to bring the young seedlings safely from the seed to the transplanting stage in pure sand, enriched with a little bone-meal; or, sifted hard-coal ashes could be used. The best results will be obtained by the use of good fine garden-loam from an old garden.

Photograph by Frank Cremer

The soil should be finely pulverized and leveled in the flats, and small drills made. Do not sow seeds broadcast in flats—always in the drills. Seeds which are large enough should be placed individually by hand. In the case of very fine, scarce ones, press down the soil with a piece of white paper, and with the end of a tooth-pick, moistened in water, pick them up, one at a time, and place them in the drills.

For very fine seeds the drills can be made by drawing a line with a ruler or straight-edge and the point of a pencil, as such seeds should be very lightly covered. Many seeds are wasted and the plants stunted or misshapen, owing to the seeds being too deeply covered. Instead of covering fine seeds as you would large ones, merely press down the soil with a board, and water with a fine nozzle.

The advantage to be derived from the separate sowing of seeds lies in the fact that they can be transplanted to other flats or into pots without disturbing others, and there is no competition for plant-food, or the more vigorous robbing the weaker. This means that the plants will develop evenly and be thrifty and full of vitality.

There is a right time to transplant the ordinary garden-plants which are grown for the farm garden. Such kinds as the cabbage, tomato, pepper and celery require individual treatment. The cabbage should be transplanted or thinned out as soon as the third leaf shows and every effort made to produce root-growth. The early cabbage is usually grown indoors, and the late planted outdoors in a seed-bed. If a large root-growth is not made by the time it is ready to set out in the field, a poor head will be the result. First get the best root-growth possible.

The tomato, being a fruiting plant, should be so grown, from the seed up, that it will be short and stocky. This means the largest possible development of the roots, and the smallest possible development of the stalk before the buds and fruit are formed. This is accomplished by wide planting of the seed and transplanting of the seedling as soon as the first real leaf, aside from the seed-leaves, is fully formed. The best tomato-plants are those which are taken from the flats as directed above and potted into two-inch pots, and turned every day, to allow of equal development on all sides, and as soon as the pots are filled with roots, shift on to four inch, growing them in a temperature not above seventy degrees. The soil in which the potting is done should be well-enriched, fibrous loam, and a handful of bone-meal should be mixed with the quantity required for a four-inch pot.

Do not allow the plants to become "pot-bound," or they will check. Frequently repot one of the plants and as soon as the ball of soil is seen covered on the outside with fine, white, fibrous roots, the plants are ready to be shifted on. The shifting can easily spoil the plants. Set the plant, from the two-inch pot, in the four-inch one, in the bottom of which there has been placed drainage material and enough soil to fill it one third. This will enable you to sift in around the plant fine soil to the top. Do not ram it down with a stick and damage the roots, but soak it with water, and it will settle, when more can afterward be put in to fill the pot to within half an inch of the top.

The pepper-plant is grown in a manner similar to the tomato, but the celery requires treatment different from all. When these plants are two inches high, they should be sheared back to the hearts with long-bladed shears and then transplanted to flats, an inch apart each way. As soon as they touch each other, shift into other flats, or take out every other one, so that they will stand two inches apart. This will make them stocky and increase the size of the heart, which is the thing desired. Treat flower-plants in a similar manner, keeping in mind that choice fruit or flowers cannot be had from a plant which has not a large mass of fibrous feeding-roots, and this root proportion should be attained while the plants are young.

In the growing of plants indoors, there is a danger which must be guarded against—the disease which attacks the young seedlings just after they get through the soil, known as "damping-off." The disease is a fungous one, and the spores are awakened into activity by a too wet condition of the soil at nightfall. Young seedlings should not be watered at any time except in the early morning, and should be thoroughly dried off before nightfall. Many cases have arisen from watering on dark days, when the plants were not in a temperature high enough to dry them fully.

The disease develops with great swiftness, sweeping off a whole flatful of young plants in a single night—in the morning they look as if they had been dipped in boiling-water.

There is no cure for this disease. Prevention is the thing. Never water the plants until the top soil is what the florists call "on the dry side"—that is, neither wet nor dry, and then do it thoroughly early in the morning.

The Boy and the Girl

The Greatest Product of the Farm—By Cora A. Thompson

WHAT's the matter with the boy and the girl that causes them to drift away from the farm, Mr. and Mrs. Farmer? I ask you the question.

Let me give you one good reason. The parents!

The other day I asked the father of a bright boy, "What will you make of your boy, a farmer?" "No indeed! My son shall not work so hard as his father. I do not know yet, but he shall do something easy, with quick cash returns."

The next house I visited I knew the daughter to be an energetic, splendid home worker, so I asked her mother: "What future are you planning for your daughter? Is she to be the helpmeet of some Mr. Young Farmer?" "No indeed!" was the reply, "my daughter shall be no farmer's slave like her mother. She shall have a career. I am planning and saving now to send her to college. Should she ever marry, it must be a professional man." "Why?" I asked. "So her life work may be easy, and she may have good clothes and perhaps servants." EASY. the hey-note to the great unrest. Poor deluded parents! Driving the young fledglings away from the home nest and the old farm by their own folly.

What more glorious heritage than to be born a farmer's son or daughter? What boy or girl born in the city is awakened by the song of robin and whippoorwill on a spring morn? Does the city boy have the lovely summers, with its fragrant meadows and fresh greenness like the country boy? And oh, the glory of the iridescent foliage, be it on bush or tree, be it beautifying the hills or adding to the mysterious charm of the valley.

Would you exchange it, my boy or girl, for the narrow, conventional life of your city brother or sister? Can they possibly have your independence and freedom? If the higher education of to-day is driving the boy and the girl from the farm, I beg of you, Mr. and Mrs. Farmer, to organize and coöperate and change it.

We *must* have better country schools! We must have better intensive farming! Ambition for a few paltry dollars drives the boy and the girl from their allegiance to the farm, to seek a city position in order to have the tawdry finery which is the cause of luring so many to ruin.

Be not ashamed that you are country bred. Suppose you are the son or daughter of a farmer who is not over-rich. The old farm is where presidents are born and reared. All boys and girls cannot become occupants of the White House, but they may become what the world needs most of all to-day, noble men and noble women!

To reach a perfect and complete manhood and womanhood, much seemingly material good must be resigned. You think you would like to go to the overcrowded city. *Don't do it!* Stick to the farm! There is dignity in plowing the soil and scattering the seeds that grow into golden wheat that makes the bread for which your less fortunate brother must toil in shop and mine and fiery furnace.

Boys and girls, stick to the farm. Farmers of America, wake up, and let us band together in a great and united effort to keep the boys and girls on the farm, to better the rural school. *Remember,* your strength lies in unity, coöperation and organization. Nothing can stand against a banded brotherhood of farmers.

Practical Patterns for Useful Clothes

Designs by Miss Gould

No. 1656—Housework Dress

Pattern cut for 32, 34, 36, 38, 40, 42 and 44 inch bust measures. Quantity of material required for medium size, or 36 inch bust, ten yards of twenty-seven-inch material, or seven and one fourth yards of thirty-six-inch material. English gingham is a durable material

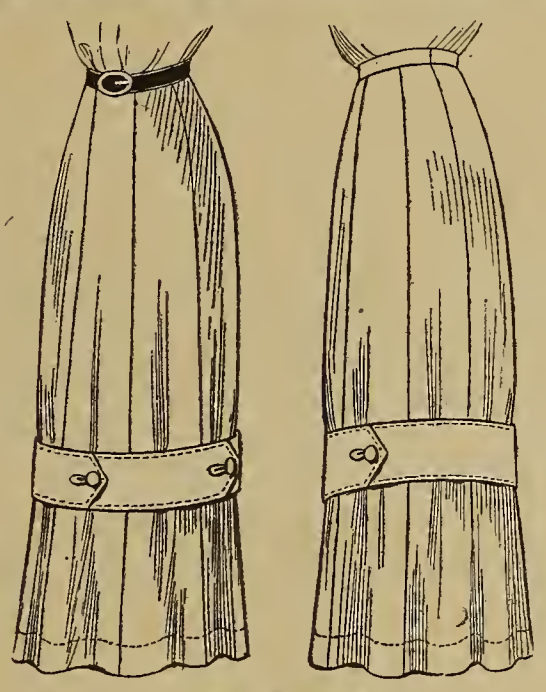
AT THIS season of the year there is nothing like a new skirt to help out a wardrobe that is beginning to be passé. A skirt cut along the newest lines of fashion can step right into a half-worn wardrobe and play the part of a good Samaritan, and a fashionable one at that. It will help to make every waist with which it is worn better looking and it will give the impression of adding more than one new frock to the wardrobe, if it is only used in the right way. The skirt pattern No. 1679 Seven-Gored Skirt With or Without Band illustrated on this page is a most economical one, for from it three very smart, very different skirts can be made and yet the price of the pattern is but ten cents.

No. 1470—Child's Yoke Dress—Sleeves in Two Styles

Cut for 1, 2, 4 and 6 year sizes. Quantity of material for medium size, or 2 years, two and five eighths yards of twenty-four-inch material, or one and three fourths yards of thirty-six-inch material. The back view shows dress with plain sleeves and straight collar

No. 1276—Guimpe Dress Buttoned at Sides

Pattern cut for 4, 6, 8 and 10 year sizes. Quantity of material required for 8 years, three and one fourth yards of twenty-two-inch material or two and one fourth yards of thirty-six-inch material, with one and one half yards of thirty-six-inch material for a guimpe



No 1679—Seven-Gored Skirt With or Without Band

Cut for 22, 24, 26, 28, 30, 32, 34 and 36 inch waist. Material required for medium size or 26 inch waist, three and seven eighths yardsof thirty-six-inch material, with three eighths of a yard of material for band

Pattern No. 1679, showing the gored skirt without the band and the back made in two styles

No. 1446—Room Gown With Side Closing

Cut for 32, 36 and 40 inch bust measures. Quantity of material required for 36 inch bust measure, ten and one half yards of twenty-seven-inch material, or seven and one half yards of thirty-six-inch material

ILLUSTRATED on this page are a number of very practical and helpful designs. First there is the housework dress shown in pattern No. 1656 and the room gown, really a wrapper, in pattern No. 1446. Both of these are always welcome additions to any woman's wardrobe. Then there is the smart dress, pattern No. 1683 and 1684, showing the side drapery now so fashionable in skirts and the design for a stylish separate coat in pattern No. 1678, which is sure to appeal to any woman whether she lives in town or in the country. A separate skirt and two children's dresses are also shown on this page. No. 1470 is for the very little girl and No. 1276 is a stylish dress to be worn with different guimpes made of lawn or dimity.

No. 1683—Waist With Vest

Cut for 34, 36, 38, 40 and 42 inch bust. Material required for 36 inch, three and one fourth yards of twenty-two-inch material, with three fourths of a yard of all-over lace. The lace vest looks pretty when white

No. 1684—Skirt With Side Drapery

Cut for 24, 26, 28, 30 and 32 inch waist. Material required for 26 inch waist, eight yarns of twenty-two-inch material. This is a stylish design for a skirt

No. 1678—Belted Overcoat With Sailor Collar

Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, five yards of thirty-six-inch material, or three and three eighths yards of fifty-four-inch material, with one yard of contrasting material twenty-seven inches wide for collar and cuffs. Plaid backed serge would make a smart coat

How to Get the Patterns

If you want clothes that are right in style and yet practical, use the patterns which are illustrated in FARM AND FIRESIDE. These are the famous WOMAN'S HOME COMPANION patterns which are guaranteed perfect. The patterns are most simple to use and we supply them at the very low price of ten cents each.

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We suggest that you send your order to the depot that is nearest to you to facilitate the quick delivery of the pattern.

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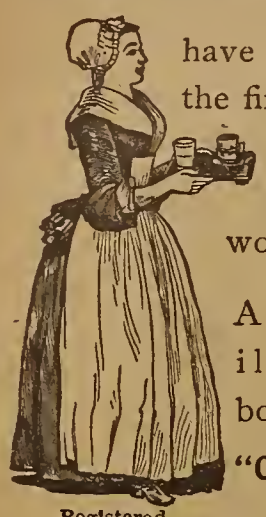

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OUR YOUNG FOLKS

Conducted by Cousin Sally

The Jade Bracelets

By Izola Forrester

In the mountain country above Liang Chow there once dwelt the two daughters of Quong, the perfume-peddler.

All day long they tended the rare flowers of their father's garden, while he labored in the distillery, making essences and perfumes so fragrant and delicious that his fame spread all over the country, even to Peking where the palace of the emperor stands.

"Some day, my little blossoms, the prince himself will come to ask me for my perfumes," Quong would say to his daughters. "Therefore we must be diligent and labor, so that we may discover the rarest, most exquisite essence in all the world of flowers."

And Swallow, the youngest daughter, would smile and stand gazing off over the purple hills for the coming of the prince. But Snow Star, the eldest, would go back to her work among the flowers in the garden and would toil from dawn until nightfall.

"Lazy one," Quong would say, "work while there is yet time. The prince may be on his way even now."

"If he comes to-day," laughed Swallow, "I will let him take a whiff of my yellow lilies, and he shall be astonished. Yea, my father, if he comes to-day, I will take him to the nook where the tiny wind-flowers unfold pink banners to the breeze, and he shall kneel and worship their loveliness."

"She should be soundly strapped for her idleness," said Snow Star somewhat disdainfully. "See all the blossoms I have picked for thee, my father. Am I not a dutiful, diligent daughter?"

"The best in all China," Quong would say, and then he would sigh and look at Swallow, for her skin was fair as ivory, and her lips like twin rubies, priceless rubies such as the empress wears when she goes up to the temple once a year to the feast of the Purple Doves. And the eyes of Swallow were like purple dove's eyes, too, deep and soft as the shadows on the distant hills. And her hair was a shining glory like polished ebony, even though she wore no jeweled pins in it, nothing but pink clusters of wind-flowers over each tiny ear.

One day there came a young merchant who asked for a day's lodging. He was selling jade bracelets, green ones for children, pink ones for maidens and pure white ones for wives. And Swallow showed him where the pink wind-flowers grew and where the yellow lilies stood in rows like modest maidens, and Snow Star said they were both worthless and idle as grasshoppers.

"Aye, aye, the prince will come suddenly, foolish one," she told her sister, "and thou wilt not be ready to meet him, nor to show him thy father's rarest perfumes, and he will ride on, and we will be ruined."

"You may show them to him, Snow Star," said the fair little Swallow. "I am so very busy, my sister."

And the very next day Quong said to her in a questioning voice, "What dost thou wear upon thy arm, child?"

"I gave her the green jade bracelet to wear," said the young merchant. "Her heart is as fresh and green as the springtime."

And the next morning Quong saw the pink bracelet on her arm, and he asked her again, and the young merchant answered for her, "I gave her the pink bracelet to wear, her beauty is as rare and lovely as the pink dawn that steps tiptoe on the mountain-tops."

"Rubbish," said Snow Star, but Swallow said nothing, only sighed.

And that evening as the sun was going down, there came the soldiers of the prince over the hills, and they stopped at the house of Quong, the perfume-peddler.

"Ah, what shall I present to the gracious nostrils of his most potent majesty," cried Quong, kneeling in the dust. "Where shall I find the rarest perfume in all the world to give him? He has come too soon before I was ready to receive him.

And Snow Star knelt, also, and wept bitterly. But up from the meadows where the yellow lilies grew and the wind-flowers blossomed there came the young merchant and Swallow. When they saw him, all the soldiers shouted, and Quong knew that he had unawares entertained the prince.

"Let me die, your highness," he groaned. "Let me die quickly, because I could not see the glory of the sun-born when it shone in my very house."

But the prince smiled and said, "Quong, fear not, for I have found your rarest perfume. It hides in the silken mesh of Swallow's hair, it lies upon her tender lips, it is the very breath of her spirit, and lo! upon her arm I have slipped the milk-white bracelet, and she has promised to be my princess."

Quong and Snow Star watched them ride away over the purple hills together, and Quong went back to his perfume-making, but Snow Star wept by the wind-flowers. She said it was useless to be diligent when princes came in disguise.

"Swallow showed him where the pink wind-flowers grew"

November 10th Prize-Winners

Louise Beck, age ten, Hicksville, Long Island; Ruth Benjamin, age nine, Beckville, Pennsylvania; Ellie Myers, age eleven, Myers P. O., Charleston, South Carolina; Angelecka Landberg, age fifteen, Eatonville, Washington; Mary B. Potts, age ten, Peculiar, Missouri.

Honor Roll

Rachel Taylor, Grace Grafton, Paul N. Watt, Vera B. Hall, Beulah Miller, Valetta Appleby, Elizabeth Smith, Ruth Meyers, Bessie Morris.

Cousins Wishing to Correspond

Mae Sheesley, age fourteen, R. R. 2, Big Run, Pennsylvania; Gladys Full, age eleven, Newport, New York; Pearl Persinger, age sixteen, R. F. D. 2, Republic, Kansas; Elsie Everett, age thirteen, Forest Hill, Maryland; Clar Gerretsen, 5924 San Pedro, Los Angeles, California; Roland R. Bromelsick, Station H, Govans, Maryland; Olive Barry, age thirteen, R. F. D. 4, Hillsboro, Illinois; Grave Grafton, age thirteen, Box 25, Forest Hill, Maryland.

The Letter-Box

Dear Cousin Sally:—

It has been a good while since I wrote to you. I have a hen and twelve chickens, and we have three little pet chickens. Mama and I found a quail's nest with fourteen eggs in it. Six of them hatched and we kept three of the little birds for a long time, then they died. They were so cute, but seemed very wild.

Mama killed a very large copperhead snake which she found in our grove the other day.

I have the dearest pony. When I say, "How do you do," he lifts up his right foot for me to shake. I would love to exchange cards with some of the cousins.

Your little friend,
Stella Thacker,
Bethel, Ohio.

Dear Cousin Sally:—

I am a city girl thirteen years old. I go to school and am in the seventh grade. Perhaps you and the cousins have read in history (during the period of the Revolutionary War) of the Wyoming Massacre. Well, there is a monument marking the place where this battle was fought. From our windows and doors at home and at school we may look upon this monument. It is between forty and fifty feet in height. On the third of July of each year a service is held on the grounds in memory of this dreadful battle.

I wish some of the cousins would write to me, especially those who live in or around Wilkes-Barre, Pennsylvania.

Elizabeth T. Wilson,
14 North Main Street,
Plains, Pennsylvania.

Dear Cousin Sally:—

I am writing to thank you for the lovely paints that you sent me. I had no idea that I would win a prize.

Do any of the cousins ride horseback? I just love to ride. My sister and I have a jet-black broncho pony and a bay Kentucky horse that we ride. We also have a Shetland pony named Gingerbread.

I am in the second year of high school and take Domestic Science, German, English and Geometry.

If my letter is printed, Cousin Sally, I would like to say that I am a girl, even if I do have a boy's name. I have received postals addressed "Mr."

I will exchange postals with any one who sends me a card, but please remember that I am a girl.

Cecil Burns, Age Fifteen,
Red Wing, Minnesota.

Monthly Prize Contest

I am sure most all of my boys and girls have had a garden of their own where they have raised flowers or vegetables. I want you to write and tell me all about your own garden, what you planted in it and how you cared for it. Head the article "How I Raised ———." The composition must contain facts from your actual experience. Do not write more than five hundred words. Write in ink, on one side of the paper only. The best compositions will be printed in one of our coming numbers.

Now, boys and girls—little folks, too—do take part in this contest and try to win one of our beautiful prizes. For the best compositions we will give prizes of post-card albums, books, paints, paper dolls and games. The contest closes February 25th, and is open to all boy and girl readers who are seventeen years of age and under. Address Cousin Sally, care of Farm and Fireside, 11 East 24th Street, New York City.

Cousin Sally's Club

If you haven't joined Cousin Sally's Club, you have missed something really worth while. Join to-day and find out what it means to be a member of a big, splendid club like this one. Our club button is very attractive and pretty, and costs only five cents. When you write for one, Cousin Sally will send you a long letter, telling you the club's motto and just what is expected of club members. All boy and girl readers seventeen years of age and under may join. In writing, address Cousin Sally's Club, Farm and Fireside, 11 East 24th Street, New York City. If you join the club at the same time you enter the contest, write your name, age and address on a separate sheet of paper.

Be sure to see Cousin Sally's long letter to you boys and girls in the next issue.

Our Puzzle School

Conducted by Sam Loyd

Can You Solve This?

"Give me three skeins of silk and four of worsted," said little Susie as she placed 31 cents on the counter, which was the correct amount.

Thinking she had the right to do a little shopping on her own account after the style of her mother, she remarked, "I think I will change my mind and take four skeins of silk and only three of worsted."

"Then you are just one cent shy," remarked the shopman.

"Oh, no," said little Susie as she skipped out the door with the goods, "I think you are just one cent shy."

What was the price of silk and worsted?

Dividing His Herds

The story is told of a Western ranchman who, finding himself well advanced in years, called his boys together and told them that he wished to divide his herds between them while he still lived. "Now, John," he said to the eldest, "you may take as many cows as you think you can conveniently care for, and your wife Nancy may have one ninth of all there are left."

To the second son he said, "Sam, you may take one more than John took, as he had first pick, and to your good wife Sally I will give also one ninth of what will be left."

To the next younger he did the same, giving him one more cow than Sam's portion on account of the better cows having been picked first, and to his wife one ninth of the remainder. This he continued to do to the younger sons and their wives until the herd of cows was divided.

Then he said: "As horses are worth twice as much as cows, we will divide the horses so that every family receives live stock of the same value."

Now, if our young farmers will just exercise their wits and tell how the cows and horses were portioned out to the families, I would be delighted to distribute some puzzle books among them, for despite of its being extremely simple it calls for ingenuity rather than mathematical knowledge.

Twenty-Two Birds Expressed Enigmatically

(1) A bird full of frolic and fun, (2) the standard old Romans adored; (3) the bird that sad judges put on, and (4) the bird that from Eden hath soared. (5) A bird that must help you to dine, and (6) a bird that is useful in chess; (7) a bird made of paper and twine, and (8) a bird in mourning dress. (9) The bird that must be in a fleet, and (10) one raising a ponderous load; (11) the bird that supplies us with meat, and (12) the name of an iron road. (13) A bird that mimics and apes, and (14) a food the Chinese eat. (15) A bird that helps to make clothes for men, (16) the bird that oft sells from door to door; (17) the bird that can write with a pen, and (18) the name of a foreign shore. (19) The bird that in ages past was the scourge of imperious Spain, (20) the bird that should travel fast, and (21) one with a shallow brain. (22) The readers may often have heard of many a wonderful nest, but tell me the name of the bird that built of our churches the best.

A Charade

From a number that's odd cut off the head,
It then will even be;
Its tail, I pray, then take away;
Your mother now you'll see.

The Anniversary Puzzle

Farmer Jones had been married twenty-five years and for a quarter of a century has had a prosperous and happy farm and fireside, so the children designed to celebrate the anniversary by a well-conceived plan. Everyone was to be taxed for a contribution of some article as pa desired for his tool-room which had always been longed for

A formal letter of invitation was sent to Uncle John to leave "his hovel," as he used to term it, and enjoy a one-day carnival at the Duncanville farm. He said he would accept for himself and Aunt Mary if I lent her a warm shawl to return with, so it augured well for the success of the day.

We were to have sports, games, a grand banquet and a square dance in the barn, which ma advised as a wind-up.

Jake scooped the insides out of a dozen pumpkins and gave the big rinds to Nellie to make lanterns.

The girls took command of everything, which made Jake say, "When the hens crew drive roosters from the barn-yard," which am merely quoting a very ungrammatical saying by Josh Billings, which I seldom give, as I prefer his "compliment to the hens that hatch eternally."

There was lots of fun over the tub-race and bitterly contested game of "the Mad Zebra who escaped."

Ma made a speech at the dinner and gave some household recipes, such as "don't try to broil canned lobster," remember that "real soft soap ain't potash and grease," etc.

Now, as all the children and grandchildren contributed to the tool-room, you have only to discover the concealed articles to tell how many descendants were present. NELLIE-ON-THE-FARM.

Brain-Sharpeners

Why was "Uncle Tom's Cabin" not written by a woman's hand? Because it was written by Mrs. Beecher Stowe (Beecher's toe).

What moral lesson does the weather-cock teach? It is vane to a-spire.

When is a house like a bird? When it has wings.

Why is a lame dog like a school-boy adding six and seven together? Because the dog puts down three and carries one.

When is a lawyer like a beast of burden? When drawing a conveyance.

Why is a coward like a leaky barrel? Because they both run.

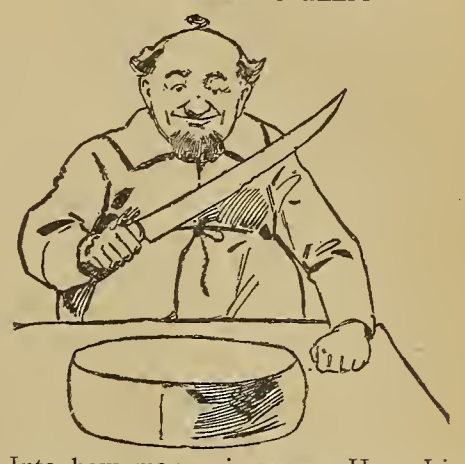
If a short man married a widow, what would his friends call him? A widow's mite.

Who is privileged to sit before the queen with his hat on? Her coachman.

Why is it unjust to blame coachmen for cheating us? Because we call them to take us in.

What is a counter-irritant? A fashionable woman shopping.

A Cheese Puzzle



Into how many pieces can Hans Limburger divide a cheese with just four straight cuts of his knife?

Answers to November Puzzles

In "To Be Found on the Farm," we see Honey, Hen, Beans, Gander, Cow, Houses, Shad, Pig, Lamb, Horse, Wheat, Scythe, Reaper, Meadow, Mare, Churn, Stable, Table, Crop, Orchard, Egg, Sow, Well, Stile, Lard, Pasture, Farm Hand, Tomato, Reaper, Butter, Flocks, Sand, Herd, Ox, Pitchfork, Sickle, Barn, Harrow, Peas and several other very simple ones.

Concealed Geography: Astoria, Orange, Poland, Nassau, Bath, Omaha, Saratoga, Medford, Rye, Venice and Corinth.

The Old-Time Rebus says, "All that glitters is not gold," which is a mistake, for gold does glitter. The proverb should say, "All is not gold that glitters."

The answer to the rebus is Speculation. The charade is Ma-ted.

A prize puzzle book will be sent to the fifty readers sending the best answers to Sam Loyd, Box 826, New York City.

When answering the puzzles be sure to tell what books you have received so as not to receive duplicates.

The Agate Box

[CONTINUED FROM PAGE 26]

"The old serving-man shambled out of the room, muttering something about the colonel being over to Jackson's and home any moment. A minute or two passed, then I heard footsteps on the gallery—heard the soft scuff of Old Sam's feet and then a little stifled exclamation. The next instant Elinor bounded into the room, her face flushed, almost angrily, I imagined.

"'I'm sorry,' I began, then stopped abruptly—for there in the doorway stood the man from the city, resplendent in the uniform of an officer of the army of the Confederacy.

"'I asked to see Miss Elinor alone,' I said politely.

"'Well,' he answered, 'we're alone.'

"'Not while you're here,' I said hotly. 'Will you please go?'

"He turned to Elinor, smiled suggestively and then sat down abruptly in a big chair. My time was limited The colonel was liable to be home any minute and that, I knew, would overturn all my plans. I walked slowly across the room until I stood before the officer and looked him squarely in the eye.

"'You are not *my* superior,' I said quietly. 'And if you don't get out of here for five minutes—or until I say you are wanted—I'll be under the necessity of depriving the Confederacy of a very promising and ornamental young officer.'

"I had no time to waste—and perhaps I would really have enjoyed carrying out my threat—but there was no need of it, for the man bowed and left the room.

"I turned to Elinor, who was leaning heavily on a table on the opposite side of the room. Her face was quite white by this time and in her eyes was a mistiness that baffled and upset me. It was as if she guessed my errand, but I could not read her answer in her eyes, so I spoke.

"'Elinor,' I began quietly, 'we must come to an understanding. I love you very dearly; I want you to become my wife. I know this is strangely abrupt, but it must be. Put aside any opinions of your own as to my attitude toward the war and think only of your own happiness, of your future. If you love me, Elinor, I want you to marry me—right away—to-night. Do you? Will you?'

"I had to hurry. Time was growing short and I half suspected that the cowardly young prig from the city had hurried over to Jackson's to get the colonel.

"I looked across the table at Elinor. Her face was just gently tinted with pink. Oh, how I longed to take her in my arms! Our eyes met and hers fell. But she raised them slowly again and I saw hope in them. Then mine dropped. They saw her white hand stealing out across the dark table for this little agate box which had lain there for years as a decoration. My hand, too, in search of something also took its course toward the box and closed slowly over Elinor's. It was but the touch of our hands, but the thrill that followed seemed to awaken all the love in the heart of that little girl and I gathered her closely to me, while the agate box remained clutched in her hand. I couldn't say much—didn't have time, in fact, to say anything, for the door had been thrown suddenly open and the temper-crazed colonel stood in the doorway, while behind him I could see the placid, satisfied face of the fellow from the city.

"'Get out of here!' roared the colonel and his face was scarlet and purple.

"'Go,' whispered Elinor. 'Don't argue with him. It's better.'

"'Send me some word,' I answered quickly, 'to-night.'

"Then I turned, bowed and walked out past the colonel.

"He reached angrily with his claw-like hand in the air and as I passed the outer door I heard something crash against the wall. I looked back and there on the floor in the moonlight lay the agate box which the colonel had flung angrily at me.

"I sat up late that night listening to the wild sounds from the quarters and waiting for some word from Elinor. I was nearly sick when it finally came—in the shape of a little negro boy who threw a few pebbles against my window and coaxed me down-stairs.

"'Come,' he whispered and slipped something into my hand. It was the agate box—the ruddy trifle that had brought Elinor and myself together, and I knew by this token that she was waiting for me somewhere.

"The negro was young Sam, a grandson of Old Sam's, and he piloted me across the fields to an old road about half a mile from the house. A horse and an old rickety buggy were waiting and as I climbed in I found a very quiet bundle of soft clothes and ruffles cuddled up at the far side, sobbing quietly.

"And in this way Elinor and I ran away and were married, and young Sam drove us. Then I went to the war and my father and mother died while I was away. Elinor went back to live in the old house. It was burned to the ground when the Southern raiders swept through our country, because a Northern sympathizer had lived there. I carried the agate box all through the war. Now it and the faded magnolia blossom are the only mementoes I have of that old life. Everything else was lost in the fire when my father's place was burned by the Confederates. I never saw Elinor again after I went to war. When I came back she had—gone. But she left a baby, a little baby girl."

And here my grandfather stopped. His voice had grown husky, though his eyes flashed through his tears and his face, marvelously gentle and soft, radiated a light of love, of understanding and of dear memories and of compelling sympathies.

"And—the baby?" I said softly, "was my mother?"

"Yes, Morton," my grandfather answered, then put a kindly hand on my shoulder and continued, "and that is why, my boy, I have shown so little affection for you. Deep in my heart I have great love for you and yet I have never dared to show it. Everything I have ever loved has been lost—excepting this box. I'm a very foolish old man, but I have not dared to put the dark and withering mark of my affection upon you."

Somehow, this opening of long closed chapters gripped me hard and I could not trust myself to speak.

"And now, Morton, the agate box is yours. Put some satin in it and a bright diamond ring and give it to your—your Elinor." His voice shook as he finished and laid the little trinket in my hand.

The agate box, with its romance that winds through the cotton-fields and lanes of Southern orchards and exhumes the fragrance of age-withered magnolias, lay in my hand, and from that moment friendship between my grandfather and myself was equaled in warmth only by the hot embers of the dying fire.

The magnolia blossom has not lost its fragrance and the memories of the agate box are increasingly sweet. In the heart of its mistress it outranks all her treasures.

Doing Our Best

By Harriet Whitney Durbin

HE DOES his best, and when his best's bad,
He don't fret none, nor he don't get sad.
He simply 'lows it's the best he had.
Old John Henry.

Whenever the question comes up as to whether the world is growing better or becoming worse, we all have a ready opinion and glib words wherein to clothe it. Yet I wonder if we ever, in real sincerity, consider our own accountability for the world's progress or its lapsing backward.

It is a stirring thought to me that if I am steadfastly doing my best, am living up to the very greatest that is in me, this big, puzzling old world is just in that proportion growing better. It matters nothing if some other person's "best" is better than mine—that is something for which I do not stand responsible. My best may be bad, in comparison, but if I hold by the best that I am able to do, I know the world is growing that much better.

Could there be a greater incentive to each and all of us for doing our "level best" as each day starts in anew?

Six Choice Rose-Bushes

And Other Flower Collections Without Cost in Farm and Fireside's Anniversary Offers

FARM AND FIRESIDE'S 1911 Anniversary Rose and Flower offer is the most liberal and valuable we have ever made to our readers. Six sturdy rose-bushes, grown especially for FARM AND FIRESIDE readers by one of the largest nurseries in America. We guarantee that they will arrive in perfect condition, ready to set out, and that

They Will Bloom This Season of 1911

FARM AND FIRESIDE Rose Offers have been famous for many years. Hundreds of thousands of rose collections have been shipped to our readers—and we do not know of a single case of dissatisfaction. Every collection is carefully packed in burlap and moss, guaranteed to reach you in perfect condition, and is shipped prepaid. Every rose is a different variety.

HERE ARE THE SIX SUPERB ROSES

Order as Collection No. 101

The Famous New Blue Rose

This year we have enlarged our collection to include the famous new blue rose. This unusual and remarkable climbing rose was originated in Germany and is of quick and vigorous growth. The flowers are borne in large trusses; they are slightly double or even single, pretty large, and of a deep purplish violet, with light violet center, and prominent yellow anthers. The blue rose is very attractive when grown in pots.

The six rose-bushes consist of:

1. *The New Blue Rose*: The latest novelty in roses; a seedling of the Crimson Rambler.

2. *Maman Cochet*: The queen of all garden roses, with color of rich, clear pink. Such beauty as is possessed by this variety is well-nigh marvelous. The buds are beautiful, large, full and elegantly pointed. The flowers are extra large and perfectly double.

3. *Etoile de Lyon*: This magnificent Tea Rose, south of the Ohio River, has proved to be perfectly hardy. Flowers are very large, double, full and deliciously fragrant. The color is a beautiful chrome-yellow, deepening at center to pure golden-yellow.

4. *White Killarney*: A very beautiful Hybrid Tea Rose. The color is an exquisite shade of deep shell-pink, lightened with silvery-pink. The buds are exceptionally long and beautifully formed, the open flower is graceful in the extreme.

5. *Helen Gould*: The most beautiful and satisfactory rose for general planting ever introduced in America. The flowers are perfectly double, the buds beautifully made, long and pointed. The color is warm rosy-crimson like that of a ripe red watermelon.

6. *Wm. R. Smith*: A most promising summer bedder with beautiful, firm, glossy foliage, quite like Cochet in appearance and durability, very vigorous in growth, with shadings of pink.

This Rose Collection Without Cost as Explained Below

OTHER GREAT FLOWER COLLECTIONS

Six Magnificent Chrysanthemums

Order as Collection No. 102

Six large flowering Japanese varieties, all different colors, the very finest Chrysanthemums obtainable.

1. *Black Hawk*: Dark velvety crimson.
2. *Estelle*: Pure white with extra large flowers.
3. *Millicent Richardson*: Beautiful rosy violet, very big.
4. *Mrs. Robert Foerderer*: Soft creamy yellow.
5. *Percy Plumridge*: Large Japanese incurved variety.
6. *W. F. McNeice*: Lavender pearl, shading to pink.

Four Elegant Ferns

Order as Collection No. 103

Of all plants for pot or interior decorations, ferns occupy the place of favor in the estimation of all. This collection, which consists of the four leading varieties, will beautify any home. They frequently sell for fifty cents each.

1. *Boston Sword Fern*: Long arching fronds.
2. *Nephrolepis Scotti*: Handsome bushy growth.
3. *Nephrolepis Whitmani*: A beautiful symmetrical plant.
4. *Emerald Fern*: Pretty decorative house plant.

Five Lovely Carnations

Order as Collection No. 104

Unrivaled in their rich and refreshing fragrance, unequaled for diversity of colors, unapproached for daintiness and beauty of outline.

1. *Prosperity*: White, overlaid with pink.
2. *Rose Pink Enchantress*: Splendid blooming qualities.
3. *Red Sport*: A flaming scarlet.
4. *Harlowarden*: Dazzling crimson, the largest and best of its color.
5. *Lady Bountiful*: Pure white, with large flowers.

State the Month in Which You Wish Plants Shipped

Guarantee

We guarantee all plants to be exactly as described, to arrive in perfect condition and to give entire satisfaction. Each collection is made up of different varieties, all famous. Each collection consists of well-grown plants that will bloom this season of 1911.

About Shipping

All the plants will be shipped carefully packed. All plants will be large, healthy and well rooted, and will bloom the coming season. Unless the subscriber states on what date she wishes plants shipped, plants will be shipped to each locality at the time they should be set out. All collections will be shipped carefully packed, delivery charges prepaid by FARM AND FIRESIDE.

Our Great Anniversary Flower Offers

OFFER No. 1. We will send one Rose or Flower collection, to every reader who sends $1.00 for a three-year subscription to Farm and Fireside—72 numbers.

OFFER No. 2. Get two friends to hand you 50c each for a one-year subscription to Farm and Fireside. Send us $1.00 for the two subscriptions and we will send you your own subscription to Farm and Fireside for one year Also we will send you, one collection of Rose-Bushes or Flowers.

We will send an additional Rose or Flower collection as a premium in payment for each additional Farm and Fireside subscription for one year at 50c. This offer is open only to readers who take advantage of either Offer No. 2 or Offer No. 1.

OFFER No. 3. Send 60c for a one-year subscription to Farm and Fireside—24 numbers—and one Rose or Flower collection.

Our Anniversary picture will accompany every subscription.

You Must Order Within 20 Days

Cultural Directions

Collections must be ordered entire. Accompanying each lot of plants there are full directions for planting, care, etc., in order that the best results may be obtained.

20-Day Offer

These great Anniversary offers hold for 20 days. We advise you to order at once. Remember that our Anniversary picture described in the offers on page 33 accompanies every subscription. Write your order on the blank opposite. It will pay you to order now even though your subscription has not yet expired. Your new subscription will be entered to begin the month after your present subscription expires.

You can obtain these six famous Roses, including the new Blue Rose, without cost, if you send a subscription to Farm and Fireside in 20 Days.

Write Your Order on Blank on Opposite Page ☛

Send Your Order to Farm and Fireside Within 20 Days

Poor Relations

[CONTINUED FROM PAGE 22]

"Why, Mr. Shreve!" he exclaimed heartily, "I haven't seen you since I met you in Oberlin's office; and Oberlin has failed, started afresh and made a million since then!"

The older man laughed, "Jack Hastings, how are you, my boy?" he returned cordially. "I haven't been at the club lately. I—I've been very busy. I'm having my house redecorated and that takes a great deal of my time."

"Having your house done over, eh?" Hastings rallied him. "Now, if I didn't know you, I would say that looked decidedly suspicious, especially coupled with the sigh which announced your presence to me."

Mr. Shreve flushed like a girl.

"By Jove!" Jack laughed delightedly, "I believe I struck the nail on the head just aiming at space. Who is the lady, Mr. Shreve?"

"Jack," the man remonstrated, trying to smile naturally, "I should be quizzing you about matrimony—not you me. How is it that a fine young fellow like you has not become a benedict long ago?" He leaned a little forward and went on solemnly, "A home is a fine thing. You will discover it some day. We all need a sacred hearthstone, Jack, with somebody sitting there waiting for us. A man can't work very well when there is not a soul in the world to care whether he has made a fortune or if his pockets are not sheltering a dull penny."

There is something in a club-room, especially at the twilight hour, which is as conducive to confidences between men as midnight with its accompaniment of kimonos and loosened hair is between women. So Hastings gravely nodded as Mr. Shreve paused and said slowly, "You are right—and it's a secret, but I am started on the road which leads to the fireside." He sighed almost unconsciously.

The older man smiled at the young fellow, a kindly quizzical light in his eyes, "I knew it," he announced triumphantly, "otherwise you would have changed the subject. Men don't like to discuss hearthstones until they desire to possess one."

"It's queer," Jack's voice was disturbed, and he scarcely seemed to realize he was speaking aloud, "I never can picture Penelope sitting at home of an evening—with me."

"Penelope!" Mr. Shreve exclaimed; then, as the man flushed scarlet, he questioned a little breathlessly, "You don't mean Miss Penelope Martin?"

Hastings made no response, "It's a secret," he muttered self-consciously, but his eyes answered, "Yes." Hastily he rose as a laughing group of men joined them. "Good-night," he shook Mr. Shreve's hand, wondering at its coldness and added, "you will respect my confidence I know."

Mr. Shreve nodded. Suddenly he felt almost old. The world held for him only one Penelope Martin, the one he knew. And now he thought her engaged to young John Hastings, so debonair and handsome and likable.

In brooding silence he watched his dream home with its shadowy occupant fade away into a house again. He dreaded to go near it. That night he went home very late and then directly up-stairs. The blue room was too full of ghosts.

Chapter XV.

PENELOPE sat alone in the red library awaiting Jack Hastings. She held herself very erect in the high-backed chair, her long slender arms resting loosely on the carved sides. She looked almost queenly in the firelight, as from moment to moment an imperious angry gleam lit up her eyes.

Mrs. Martin had issued invitations for a great ball and that day three regrets had come, regrets which filled the girl with bitterness; for the Van Ordens, the Pells and the Castles, the people who had declined to come, were the ones who held descent and family up as their household gods—the leaders of the "conservative set."

Penelope's heart beat faster with chagrin as she thought of her cousins, the cause of this disappointment. For six years the Martins had fought their way into society, and now, just as they were beginning to be accepted as a matter of course, as "undeniably belonging," here comes Miss Penelope with her decorating shop and her claim of relationship to start afresh the hateful question, "Who are they?" Evidently the Van Ordens, the Pells and the Castles had decided anew that as far as they were concerned the answer was "Nobodies."

The proud girl's face burned with scorn. How mean and low their standards were. She even laughed a little, there by herself. Her father had engaged one of the young Van Ordens as his private secretary, only to dismiss him as incapable. Often she had contrasted her father's face, strong, deeply lined, but intensely keen and virile, with the classic-featured vacuity of the youth's countenance, and many times her mocking smile had appeared as she watched the enormous effort it cost this scion of departed greatness to even take down the dictation of the man whose father had sold groceries in a town of the Middle West.

Again to-night she went over her familiar mental journey, comparing herself to the city's aristocracy, and as always it left her arrogantly convinced of her superiority, a proud, mocking smile on her lips. Passionately she desired the social heights and determined to reach them, much as her father had passionately desired to win his place among men. And always in the background of her thoughts were her cousins, the means of starting the conflict anew.

She glanced at the clock listlessly. Jack would be there presently. She sighed a little at the thought of him. She had deliberately accepted his attentions and his offer of marriage because he had the thing dearest to her heart, position. Of all the men she then knew he had stood the highest in her scheme-filled world. She had never pretended to herself that she loved him. Love! Her eyes grew cynical at the suggestion. Idly she wondered if there were any truth in the platitude that women who married for money or rank always fell in love afterward and then came varying tragedy.

As to any wrong she might be doing Hastings, such a thought never occurred to her. Her whole life had taught her to use people, to appraise them and value them accordingly, so that such a viewpoint had become part of the girl herself.

In a few moments Mr. Hastings arrived, kissed Penelope gravely and looked at her, a troubled questioning in his eyes. He had scarcely seen Marion since the day of the accident, and when they had come into contact their stiff formality was an embarrassment to both. However, daily Hastings became more dissatisfied with himself, more conscious of something amiss between him and his fiancée.

That evening he had determined to voice his doubts, so after they had sunk into chairs, in the shadow just beyond the firelight, he began, "Pen, there is something wrong between us. I don't know what it is, but it is there. Is it that you have discovered that you do not love me, dear? If so, tell me. It will be far better. Is that the reason why you hesitate to announce our engagement? Is it, Pen?" He rose and stood in front of her, his face white and stern in the dull glow.

For a second a startled gleam flashed into the girl's eyes. Then she laughed softly, her own, mocking laugh, which was still very sweet. "Jack," her voice was a protest, "I can't even get angry with you, you are so absurdly boyish. You should have loved a Spanish girl who would have flown into tantrums of jealousy to prove her affection. Silly boy!" She held out her hand, the jewel in her engagement-ring flashing a thousand ways, "See, I put it on this evening," she murmured, "just for you."

The man took her long slender fingers in his, but still he regarded her moodily, exclaiming, "I can't understand myself, but it's in little things like just now. If you really cared, you would have been furious at my doubting you, but you only laughed!"

Suddenly Penelope rose, too, her loveliness imperial in its charm, "Jack," she said slowly, "I said I would marry you, didn't I?"

"Yes, but why don't you announce our engagement—it is a public secret already."

"I don't know why," the girl replied with her calm frankness, "perhaps—"

The butler stood in the doorway, "The Comte De Feronac calling," he announced. Hastings looked at Penelope suspiciously and noticed the animation which lit her face.

"Show him in," she ordered.

"Pen, this was to be our evening alone," the man complained, "the first in a month!"

The girl smiled teasingly, "You seem to want a capricious sweetheart," she mocked. "Very well! I will be one! Now, I'm going to smile my sweetest at the comte."

A sudden flood of resentment held Hastings in its grasp. Somehow he felt cheated of his romance, of the blissful days that ought to have been theirs during this courting-time.

"I won't be here to see you," he snapped abruptly.

His ill humor moved her to laughter. "Oh, Jack," she smiled, "you are so funny when you are angry."

"Good-by," he stepped through the doorway into the hall.

Penelope took a step to follow him, then stood still, a queer expression on her face.

In a moment the comte appeared. For a brief half hour he entertained the girl with the personalities so easy for Continentals to employ, and when Mr. and Mrs. Martin returned from a reception at eleven, the two were still in the library.

Chapter XVI.

LATE in the afternoon of the day on which the Martin ball was to take place, the city editor called Marion, just as she was leaving for home. "Miss Martin," he directed, "you will have to go to that ball to-night—I'm sorry, but Miss Dean just 'phoned that she was ill, so there is no one else to send."

"To Mrs. Martin's ball," the girl repeated almost mechanically, "why, I can't because—" she checked herself at sight of the man's frown. He was a disciplinarian and objections were useless.

"Very well," she murmured just above her breath, but with such a white, startled face that, as she turned to leave, the man, hardened as he was, was more than half tempted to call her back. However, she really was the only one to send, so he swallowed his sentiment in favor of business.

Marion went home in a daze, revolving in her mind fruitless schemes to avoid the evening's assignment; even as she realized that she must go, unless she appealed to Mr. Hastings. And that she would not do.

Penelope, on hearing the story, advised her to go. "You know, dearie," she soothed

[CONTINUED ON PAGE 35]

ANNIVERSARY PICTURE

GIFT FOR EVERY SUBSCRIBER

To celebrate its 33d Anniversary, FARM AND FIRESIDE wishes to present every subscriber with a copy of the beautiful painting "Waiting for the Milk-Man." This great picture is one of the finest animal pictures ever painted. Everybody loves dogs, but it is only once in a generation that there is painted a great dog picture.

This picture is worthy of recognition as a masterpiece. It represents three handsome and mischievous looking little puppies who are evidently awaiting the appearance of their young master with the portion of milk for their breakfast. The situation is typical and very natural. It is printed in colors and will make a handsome appearance on the wall of your living-room.

The small reproduction of our Anniversary Picture gives no idea of the real beauty of the painting. But look at the little fellows! See how lifelike they are. They look as though they could jump right out of the frame and lick your hand. Seldom has so fine a dog picture been painted. Never before has FARM AND FIRESIDE had such a handsome, classy picture to offer its readers. This generous way of treating subscribers has contributed largely to the wonderful success of FARM AND FIRESIDE. A copy of this magnificent picture goes without cost to every subscriber, new or renewal, accepting any of our big Special Anniversary Offers as outlined on the lower part of this page.

"Waiting for the Milk-Man"
This Elegant Picture, in Colors. Size 11x16. Our Gift to You

Description of the Picture

Copies of this handsome picture have never before been offered to the public. These pictures have been obtained for our readers at great expense. Every picture is fully protected by copyright and cannot be reproduced by anyone else whosoever.

"Waiting for the Milk-Man" is 11x16 inches in size and is printed on extra heavy art paper. The picture is in colors and looks exactly like the original painting.

A Twenty-Day Offer

This special picture offer will exist only during the next twenty days. Never before in the history of the agricultural press has any farm paper made such a generous effort to please its subscribers and supply them with a gift of real merit.

Let us again advise you that the offer is for twenty days only. It will be well, therefore, for you to fill out the coupon below indicating the offer you accept and send it to us by early mail.

Our Biggest Offers

Good for the Next 20 Days

ANNIVERSARY OFFER No. 1

Send $1.00 for a 3-year subscription to FARM AND FIRESIDE—72 numbers—you will also receive the Anniversary picture and we will send you without cost any one flower collection described on opposite page.

ANNIVERSARY OFFER No. 2

Without Cost Get two friends each to hand you 50 cents for a 1-year subscription to FARM AND FIRESIDE and send us $1.00 for the two subscriptions. In return, we will send you FARM AND FIRESIDE for one year, also any one of our great Flower Collections, without cost. The Anniversary Picture will accompany each subscription.

Readers accepting offers No. 1 or 2 may obtain additional Flower Collections as premium for each additional FARM AND FIRESIDE yearly subscription at 50 cents.

ANNIVERSARY OFFER No. 3

Send 60c for a 1-year subscription to FARM AND FIRESIDE—24 numbers—the Anniversary Picture, together with any one of the Flower Collections.

50 Post-Cards

In any of the above offers you can substitute for a Flower Collection the set of 50 Post-Cards described on page 23.

ANNIVERSARY OFFER No. 4

Send 50c for a 1-year subscription to FARM AND FIRESIDE—24 numbers—and you will receive the Anniversary Picture.

By accepting one of the above special offers immediately you will insure yourself against disappointment because we cannot possibly agree to fill any more orders after the expiration of the twenty-day limit. You will profit by acting on our advice and mailing your order without delay.

Send Your Subscription With This Blank To-day

Farm and Fireside, Springfield, Ohio

I accept your Anniversary Offer No..... Inclosed find $.....

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Send me premium as follows: .....

.....

Also send FARM AND FIRESIDE to:

Name .....

Address.....

Name .....

Address.....

The Anniversary Picture Will be Sent With Every Subscription

The Household Department

Money-Making Side-Lines

How is it that so few people with ground at their disposal ever think of planting quantities of catnip? It may be made a fine side-line for wives' or daughters' pocket-money.

Here in California such things at mint and catnip cannot be grown so readily as they can in the Eastern states, and, of course, cats are not so numerous, but even here I had a good trade in catnip down in San Diego two years ago.

For a while it was necessary that I have a steady income in order to meet an urgent emergency. As I had no other resources for the first few weeks, until I had my literary work well under way, I turned to my large garden for aid. The vegetables and fruit helped me nicely, but I did not give a thought to my large bed of catnip until one day a woman from whom I was taking an order for fruit said, "I do wish you had catnip. I have three cats and I know that they would be delighted to roll in a bunch of it." As she was a good customer, I gave her a bunch of the sweet-smelling herb; and when I saw the excitement of her pussies, who had never before been given fresh catnip, it set me to thinking. So next day I took a large bunch as a sample and devoted the whole morning to soliciting custom from some of the fine residences in select neighborhoods, where Angora cats were likely to be found. Sure enough, there they were in plenty, and one pleased woman, the owner of no less than seven of the half-grown beauties, ordered twenty-five cents' worth of the catnip for the first of every month. Before noon I had secured a regular monthly custom of two and one half dollars, and orders for over a dollar's worth more at once. Later on I got still more regular custom, but, alas! my trade outgrew the catnip and finally I could no longer supply the demand. Besides, the necessity for such work on my part had ceased.

I have often thought of what a chance there is in even that one line for some woman who cares to follow it in earnest. I had only thirty stalks of catnip growing, great sprawling affairs that covered ten by twenty feet of ground in a partly shaded corner of my garden, yet in nine weeks I sold nearly eleven dollars' worth.

M. Z. Watrous.

Some women know how to make money from poultry. What has been done can be done again. Careful management and study will accomplish much. The demand for fresh eggs is always greater than the supply. Squab-raising, as superintended by some women, is a money-making venture. The birds need to have a large, clean place, and be given plenty of the right kind of food.

One housekeeper is happy in supplying her customers with cottage cheese. Her private account shows a steady and constant growth. A poor widow, left with a small field, began the culture of ginseng. She commenced on a small scale, investing only five dollars at first. She now has a large, fine bed that nets her the snug income of one thousand dollars a year.

An unmarried woman, living near a stock yard, saw that calves only a few days old were frequently brought by the farmers for the weekly shipping day. She found that if one could keep them for a few months, they would double in value. She had a vacant field and bought several calves on which to experiment. She was so successful that she enlarged her business, and to-day she is a wealthy woman.

"No one can raise anything but weeds on this sand lot," exclaimed a discouraged farmer to his wife one day after his third failure to crop it with profit.

"Turn it over to me," said his young wife in an energetic tone. A few days before a neighbor had said to her, "We are going to clean out our raspberries and strawberries. You can have all the plants you want." She determined to take advantage of the offer. The lot was fertilized, fitted up well and the fruit-garden became a reality. The third season she was able to put thirty dollars in the bank which she had realized from the sale of the berries.

Z. I. Davis.

Helpful Hints

To Keep Out Rats—Mix potash with powdered meal and throw it into the rat-holes in the cellar, and the rats will disappear.

A small quantity of alum in sugar syrup will prevent the syrup from becoming granulated.

To Gather a Ruffle—A good way to gather a ruffle, sleeve, etc., is to make a very long stitch on the machine, place the edge to be gathered under the foot and sew along. Then draw the upper thread until the desired fullness is obtained. Shirring can be done in the same way by using the gage to measure the distance between the threads.

Never wash blankets on a damp or cloudy day. Choose a day when it is bright and breezy, if you possibly can.

With Cranberries

Cranberries or any other acid fruit should never be cooked in metal utensils, but a porcelain-lined, granite or earthen dish should be used.

Cranberry-Sauce—Wash the berries and drain them dry, put them into the preserving-kettle, and for three pints of berries add three cupfuls of sugar and one and one half cupfuls of cold water. After they begin to boil, cook them for ten minutes closely covered. If there is any scum, remove it, and when done, press through a sieve to remove the skins and seeds.

Mock Cherry-Pie—One cupful of cranberries chopped, one half cupful of raisins seeded and chopped, one cupful of sugar, one tablespoonful of flour, one half cupful of cold water and one half teaspoonful of vanilla-extract. Stir all thoroughly together and bake with two crusts.

Cranberry-Pudding—Beat two eggs until light, add three fourths of a cupful of sugar, one half cupful of milk, two cupfuls of flour sifted with two teaspoonfuls of baking-powder and one half teaspoonful of salt. Then stir in one cupful of cranberries cut in halves, pour into small greased molds and steam for one hour. Serve with hard sauce or maple syrup.

Cranberry Drop Dumplings—Put on to cook three cupfuls of cranberries, one and one half cupfuls of sugar and one cupful of boiling water. Make the dumplings of two cupfuls of flour, one teaspoonful of baking-powder, one half teaspoonful of salt and three fourths of a cupful of sweet milk. Drop in spoonfuls into the boiling fruit, cover closely and simmer on the back of the range for twenty minutes.

Cranberry Sponge—Wash one quart of cranberries and put them in a porcelain saucepan with two cupfuls of sugar and one cupful of water. Cover and cook for ten minutes after they begin to boil. Remove any scum that rises, and when done, press through a fine sieve. This will jelly when cold. Beat the jelly with a wire egg-beater until it is light and foamy, then fold in lightly the stiffly whipped whites of two eggs, heap in a glass dish and serve at once.

Elma Iona Locke.

Quilt-Block Designs—The quilt designs in this group below are in two colors and are intended to be made up into a sash quilt. The illustration shows one complete section of six squares.

First cut out thirty-five blocks a foot square and of the light colors which you choose for a background of the quilt, then cut out thirty-five designs of a darker color—shown here in black. Sew one design on each light block and you are ready to set the quilt together.

Make the quilt five blocks wide and seven blocks long, run a sash or strip of cloth about four or six inches wide, and of the same color as the design, the entire length and breadth of the quilt and between each two rows of blocks each way. This will make a very beautiful quilt and without much piecing. The sash between the blocks will bring out the design much more prominently than would be the case were the blocks set tightly together. Plain or figured material in any desired color may be used. It is simply a matter of taste with the maker of the quilt.

The proper way to get the patterns from the blocks is to draw off the design on a piece of thick paper or Bristol-board the full size of the block (from ten to eighteen inches) then cut the pattern for each different piece from your drawing. If you cut the model design from very stout paper and use them very carefully, one pattern of each block should be sufficient for the entire quilt.

A. J. Ransom.

When Eggs are Scarce

Even on the farm there are times when eggs are scarce and one must economize. However, this is not very hard to do if one has reliable recipes to cook from. I find I can manage very well without eggs whenever necessity demands it. For the benefit of other housewives who must also study economy, I give these recipes, some of which call for one egg, while the others call for none at all.

Cake—Use one egg (or it can be made without any), two tablespoonfuls of butter, one and one half cupfuls of granulated sugar, one half cupful of sweet milk, two cupfuls of flour, two teaspoonfuls of baking-powder. Beat well and bake in two layers. Using this same batter, you can add one cupful of raisins, one half cupful of English walnuts and bake in a loaf

Eggless Ginger-Cake—One half pint of cooking molasses, one half pint of boiling water, two tablespoonfuls of butter, one half teaspoonful each of cloves, ginger and cinnamon, one teaspoonful of soda, two cupfuls of flour. Melt butter and stir it into molasses. Add spices, stir in flour, dissolve soda in boiling water and pour it in. Beat hard until foamy. Bake in two thick layers.

This is fine put together with fudge icing and eaten warm.

Eggless Fruit-Cake—One cupful of sugar, two tablespoonfuls of butter, one cupful of chopped raisins, one teaspoonful each of cloves and cinnamon, one cupful of sour milk, one teaspoonful of soda, two cupfuls of flour. Bake in a loaf.

Good Eggless Doughnuts—Two cupfuls of warm mashed potatoes, two cupfuls of sugar, one cupful of sweet milk, two tablespoonfuls of butter, five level teaspoonfuls of baking-powder, one teaspoonful of vanilla. Flour to make soft dough. Roll out half an inch thick. Fry in hot grease. The potatoes keep the doughnuts soft, and they keep fresh much longer than those made with eggs.

Corn-Bread—Two and one half cupfuls of sifted meal, one teaspoonful of salt, one level teaspoonful soda. Mix together dry, then add enough sour milk to make medium batter. Grease bread-pan. Then melt a tablespoonful of lard in it and pour in the corn-bread. Bake in quick oven.

Eggless Brown Bread—One pint of sour milk, one teaspoonful of soda, one half pint of New Orleans molasses, one tablespoonful of baking-powder, two pints of Graham flour. Beat well. Bake in well-greased half-pound baking-powder cans in slow oven.

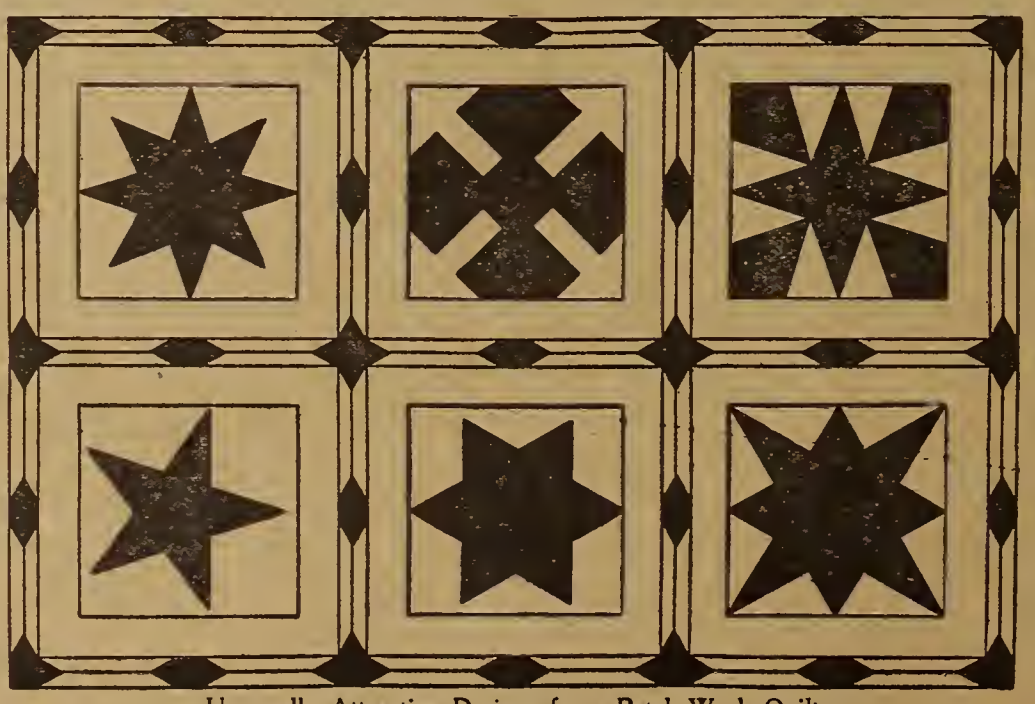
Pineapple-Tapioca—Soak four tablespoonfuls of tapioca overnight. Add one half cupful of water and cook till clear. Then add one pint of canned pineapple, and sugar to taste; cook until thick enough. Serve with whipped cream.

Pumpkin or Squash Pie—One cupful of stewed pumpkin, one fourth of a cupful of sugar, one tablespoonful of New Orleans molasses, one tablespoonful of flour, a little cinnamon and cloves, one cupful of milk. Beat together, add a little baking-powder; beat again. Pour in rich crust and bake.

Eggless Salad Dressing—One tablespoonful of butter, two tablespoonfuls of good vinegar, one half teaspoonful of salt, one tablespoonful of sugar, two tablespoonfuls of flour, one cupful of good thick cream. Beat until smooth and cook until it thickens. If too thick, add more cream. A salad dressed with this, and with a few preserved cherries or English walnuts used to decorate it is splendid.

All of these recipes are "tried and tested."

Beulah Tatum.



Unusually Attractive Designs for a Patch-Work Quilt

The Housewife's Letter-Box

Wine-Cake for Mrs. N. H. Iowa—One and one half cupfuls of currant-wine, three cupfuls of sugar, two cupfuls of butter, four cupfuls of flour, five eggs, two pounds of raisins with one cupful more of flour, and one teaspoonful of soda in the wine. Spices to taste.

A. E. M. S., New York.

Pumpkin-Butter for Mrs. W. R. Missouri—To one large pumpkin, peeled and cut, allow one three-gallon pail of sweet cider just ground. Place kettle on fire and fill, always allowing one pumpkin to three gallons of cider. Boil until thick, stirring all the time after it begins to thicken. Add sugar, cloves and cinnamon to taste.

Mrs. A. H. K., Illinois.

Cut up and cook your pumpkins the same as for pie; rub through the colander. Add a cupful of good cider-vinegar to each gallon of pumpkin. Add sugar, salt, cinnamon and a little cloves to taste; boil down again and can hot.

Mrs. N. E. R., Texas.

For Mrs. C. M. E., Ohio—Will you please send your full name and address to editor of "Housewife's Letter-Box?" I have secured the help you are looking for.

Rye-Bread for Mrs. E. W., Arkansas—To one cupful each of scalded milk and boiling water add one tablespoonful of lard, one tablespoonful of butter, one third of a cupful of brown sugar and one and one half teaspoonfuls of salt. When lukewarm, add one fourth of a yeast-cake dissolved in one fourth of a cupful of lukewarm water and three cupfuls of flour; beat thoroughly, cover and let it rise until light. Add rye-meal until the dough is stiff enough to knead; knead thoroughly, let it rise, shape into loaves, let it rise again and then bake.

For Mrs. E. E. C., Massachusetts—Here is a formula for an insect-powder that I have used four years. It is splendid for ridding the house of ants and bedbugs, and can also be used in the chicken-house, but never use it on a setting-hen. One pound of naphthalin, one pound of sulphur, five pounds of stucco, one third of a pound of Scotch snuff. Get the druggist to mix it for you and put the powder into a tin can. It will last for a long time. Be careful to keep it away from children. While it is not poisonous, it might make them sick and it is always well to be on the safe side.

Mrs. P. S., Nebraska.

For Mrs. J. H. S., Washington—Wash the red and white Irish chain quilt in suds—not too hot—rinse in clear water; then have ready a second tub of water, to which has been added a little bluing and enough salt to make the water taste quite salty. Put quilt in this. I am sure the red will not run into the white. Wash on a bright day so that quilt will dry quickly.

E. S. G., Pennsylvania.

The following questions, asked November 10th, have not been answered. Can some reader answer one or all of them? How to clean German silver? How to mend a mirror when the quicksilver has rolled off? How to preserve ginger? A pattern of the grape and tulip quilt?

Meringue Pie for Mrs. H. E. Wisconsin—Use one tablespoonful of powdered sugar to each white of an egg. Beat the whites until stiff, adding the sugar gradually, and bake in moderate oven. Too much sugar, too warm an oven or a draft blowing on the meringue when cooling will cause it to fall.

Mrs. H. A. B., New York.

Salt-Rising Bread for J. E. R., Iowa—Very early in the morning take a heaping tablespoonful of unsifted meal and a pinch of salt; pour upon this two thirds of a cupful of hot water (not boiling); into this stir one half teaspoonful of sugar and enough hard-wheat flour to make a thin batter; cover the bowl tightly and place in a pot or crock containing warm water; cover this, also, and set in a warm place. When bubbles begin to form in the batter, stir in a little more flour. When the yeast foams up to the top of the bowl, take four sifters (favorite size) of flour, a little salt, a teaspoonful of sugar, shortening the size of an egg and one quart of water warm as the hand can bear.

Knead into four stiff loaves. Place these in a greased pan, keep warm until raised sufficiently and bake as any other light bread. A meat-roaster makes the best pan in which to bake salt-rising bread. Should the yeast fail to foam, don't throw it away, but put it into next morning's biscuits and try again.

V. B., Pennsylvania.

For Mrs. S. J. R., Delaware—Grease spots on wall-paper can be removed by covering the spots with French chalk, powdered, and allowing it to remain for twenty-four hours. If the mark has not then disappeared, repeat the application, laying a piece of blotting-paper over the chalked spot and pressing with a warm iron. If the paper is merely soiled, it can very often be cleaned by rubbing the spots with a piece of dry bread.

Mrs. J. F., Florida.

Poor Relations

[CONTINUED FROM PAGE 33]

her, "you are bound to meet Aunt Clem sooner or later. You might just as well let it happen now. She is sure to be quite as embarrassed as you are."

Marion nodded her head in reluctant assent. How little her sister understood! For over two weeks Marion had avoided her employer. At last she had acknowledged to herself that she loved him, and with this self-revelation so bitter-sweet in its import had come a resolve to leave his service at the earliest possible moment. Mr. Hastings was engaged to her cousin. A thousand times a day she repeated this fact. It was necessary that she should love him hopelessly; but surely it was not needful that she should stand by and watch the culmination of Penelope's happiness.

It was in this spirit that she decided to go to the ball. Surely she could slip away without seeing John Hastings. It would be easy to be inconspicuous in such a crowd.

Nevertheless her heart quaked as at nine o'clock, in her well-worn little tailor-made and dark fur toque, she set out for the Martin home.

Just a few carriages were lined up at the mansion's entrance. It was still too early. Marion's breath came fast as she walked up the marble steps.

The butler at the door eyed the girl doubtfully.

"I am a reporter from the *Morning Chronicle*," she explained, "kindly give this card to Mrs. Martin." Her voice was low and muffled.

Silently the wooden-faced one conducted the girl into a dark little reception-room, then turned and left her.

She felt horribly forlorn and alone. A hot, indignant sense of injustice forced burning tears to her eyes. Here was her aunt giving a ball and she, her niece, was not following the gay influx of guests, but was sitting in a dull little waiting-room, with a pencil and pad in her hand, ready to "write up" the affair.

Suddenly she heard Hastings' voice outside and she strained her eyes to see him in the gloom. How handsome he was, and how manly! She fancied he looked pale in the one glance she had of him. Hot tears ran down her cheeks. She must try to put him out of her thoughts. He was engaged to Penelope Martin. With a little grieving sigh she dried her eyes. It was very still in the dim room. Had the butler forgotten her? Achingly she longed to be one of the smiling girls of whom she just caught glimpses as they passed in light-hued wraps with flashes of glowing color beneath. It seemed very hard to be poor. How humiliating it was going to be, to meet her aunt in this position!

Abruptly the curtains at the doorway parted and Mrs. Martin, agleam with jewels, entered the room.

"Please excuse—" she began, then catching sight of the girl, she gasped weakly, "Marion—you!"

"Yes, Aunt Clem," the girl's cheeks were crimson, but her manner was quiet, "I'm a society reporter on the *Morning Chronicle*."

Mrs. Martin flushed in her turn.

"Mr. Hastings' paper," she exclaimed involuntarily. "He has never mentioned it to us—"

"He doesn't know of our relationship. I have never spoken of it," Marion explained.

That lady looked at her with a mixture of relief and embarrassment. She had not invited her nieces to the ball, and while she never saw them her conscience made no protest, but to have Marion come as a reporter had made her feel vaguely guilty.

"I—I'm so surprised," she stammered, "I had not even the slightest idea that you—"

"Of course not!" The girl's tone was businesslike. "Now, will you please give me a list of the guests and a menu. Then I should like to see the decorations and the costumes in the ball-room." Her voice broke traitorously, but she forced it into control. She must forget it was to her aunt she was speaking.

"Certainly, with pleasure," Mrs. Martin returned, "come to the library and I'll give you the list and the menu right away." She stared at her niece's face, white and pinched with the pain of the interview. "Won't you take a glass of lemonade and some salad before you go?" she suggested uncomfortably.

"No, thank you!" Marion's eyes flashed, "I must hurry!"

"Oh, must you?" She led the way to the library and gave the girl the required papers. "Now, I'll take you to the musicians' gallery. That will be the best place for you to see the dance," she continued, her sense of guiltiness growing with each moment.

Without speaking they passed through the flower-laden rooms until they halted just outside the ball-room by the stairs which led to the musicians' balcony.

"Go right up, my dear," Mrs. Martin begged.

"Very well, Aunt Clem," Marion murmured.

Her aunt glanced hastily around, hoping no one had heard the girl's form of address. Some guests were coming down the long corridor, "I must go!" she exclaimed, "the guests are just beginning to enter the ball-room. Ask one of my men for anything you want." She nodded, smiled and flashed away very hurriedly.

Marion climbed the narrow little steps; a kindly-faced German musician placed a chair for her beside some young men and women evidently of her own profession, then she put forth an effort to place her mind on the costumes.

With a preliminary chord the music commenced; gradually the floor became alive with gliding figures.

Marion's head ached miserably, but she mechanically kept noting gowns and jewels, when suddenly she saw Penelope and John Hastings standing just below her. The girl was exquisite in a trailing gown of white satin embroidered with pearls, with the same jewels at her throat and in her hair. She was smiling radiantly at her fiancée, with whom she had rapidly made peace after the quarrel of a week before, while he looked animated and eager.

Marion rose unsteadily. She felt ready to cry or faint. It was bad enough that she was never to know happiness, but she would not stand by and watch the fortunate ones enjoy their pleasure.

Crimson-cheeked she stopped for a moment at the foot of the stairs to thrust her pencil and pad into her hand-bag, when suddenly she shrank behind the thick clump of palms which hid a green bench at the approach to the balcony, and a second later Hastings and Penelope passed by. The man glanced idly at the potted plants, but evidently seeing nothing, passed on.

After a few moments Marion stepped out from her hiding-place, shivering and trembling with nervous dread. Somehow she felt in a hostile atmosphere, trapped, among enemies. She paused a minute to collect herself, then just as she turned to go, young Fred Martin lurched out of a near-by door and stood in front of her.

[TO BE CONTINUED IN NEXT ISSUE]

Recreation for the Farmer's Wife

By Mabel G. Rodgers

Farm people need recreations and pleasures occasionally just as much as town people, especially the farmer's wife, whose work is indoors the greater part of the time. She needs to get out and mingle with other women, have friendly chats and exchange ideas. Staying too closely at home is apt to make one narrow-minded and consequently unable to appreciate the joys and sorrows of others.

In one farming community a wide-awake young married woman originated the idea of forming a book club. She talked up her plans with one or two others and asked several if they would join, with the result that the club was organized with ten members. Each one contributed a book of the later fiction and entertained the members once during the year. The meetings were held each month and the books were exchanged, light refreshments served and a good social time enjoyed. Now the club membership is increased to sixteen and every one seems to enjoy having the books to read and the pleasant afternoon each month. They get interested in each other's children and cows and chickens, and sometimes have lively discussions about the best feed for chickens or the prices of milk and butter. Of course, it is not so easy for them to go as it is for the woman in town. Sometimes they have to walk quite a distance and sometimes they must stay at home when the horses are too busy to be spared, but they appreciate the meetings more for the effort they have to make.

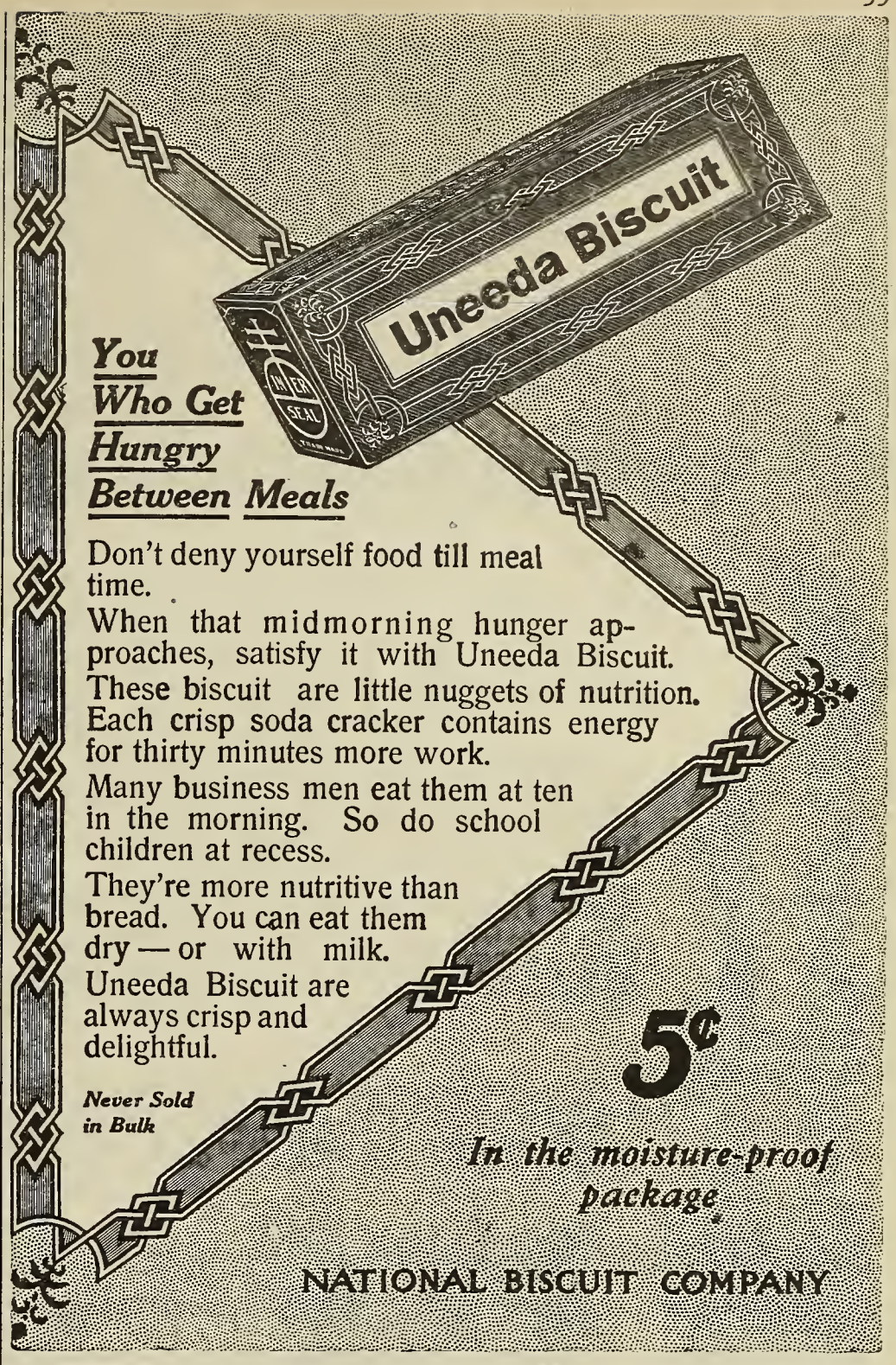
At one meeting in the year everyone helps furnish the refreshments and the families of the members are invited. This keeps the husbands good-natured and they are always interested to know about the meetings—"who was there?" and (man-like) "what did you have to eat?"

Another splendid thing in the way of recreation for the farmer's wife is to have a hobby. Not something to take her whole time and alienate her from work, for, as "Ole Nutmeg" says, "When the hobby rides the rider it's time to get off and walk," but some pleasant, congenial occupation for the spare minutes. One woman devotes most of her spare time to her plants and flowers. In summer she has beautiful large pansies, tulips, lilies, roses and many others, and in winter her windows are full of flowers.

Another woman has reading for her pastime. She reads magazines, books and papers and tries to read something instructive each day, as well as fiction. She thoroughly enjoys reading and every minute she can conscientiously spare from her work is spent this way.

Some women get a great deal of enjoyment from a small camera. These are quite inexpensive and if one does the developing and printing, the cost is not large. There are so many opportunities for getting interesting pictures on the farm and the pictures one takes of the home, the children and the farm animals will be valued for many years.

Then there are many other things—gardening, Nature study, walking, music, drawing, embroidery, stenciling—almost an inexhaustible list and something for each and every one. The farm woman can get just as much pleasure from these things as her town sister, and even if she does not spend more than five or ten minutes daily in pursuit of her "hobby" she is sure to get much enjoyment and inspiration.



CHEATED FOR YEARS

Prejudice Will Cheat Us Often If We Let It

You will be astonished to find how largely you are influenced in every way by unreasoning prejudice. In many cases you will also find that the prejudice has swindled you, or rather, made you swindle yourself. A case in illustration:

"I have been a constant user of Grape-Nuts for nearly three years," says a correspondent, "and I am happy to say that I am well pleased with the result of the experiment, for such it has been.

"Seeing your advertisement in almost all of the periodicals, for a long time I looked upon it as a hoax. But after years of suffering with gaseous and bitter eructations from my stomach, together with more or less loss of appetite and flesh, I concluded to try Grape-Nuts food for a little time and note the result.

"I found it delicious, and it was not long till I began to experience the beneficial effects. My stomach resumed its normal state, the eructations and bitterness ceased and I have gained all my lost weight back.

"I am so well satisfied with the result that so long as I may live and retain my reason Grape-Nuts shall constitute quite a portion of my daily food."

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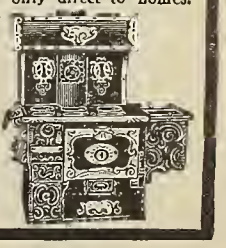

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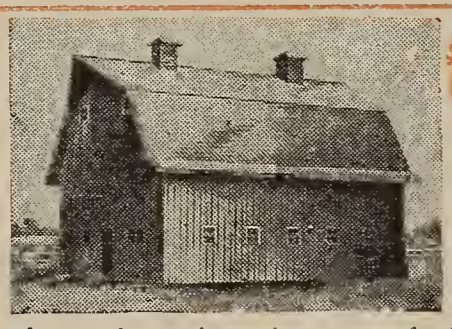

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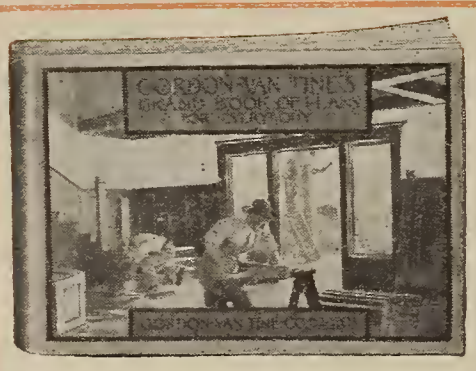

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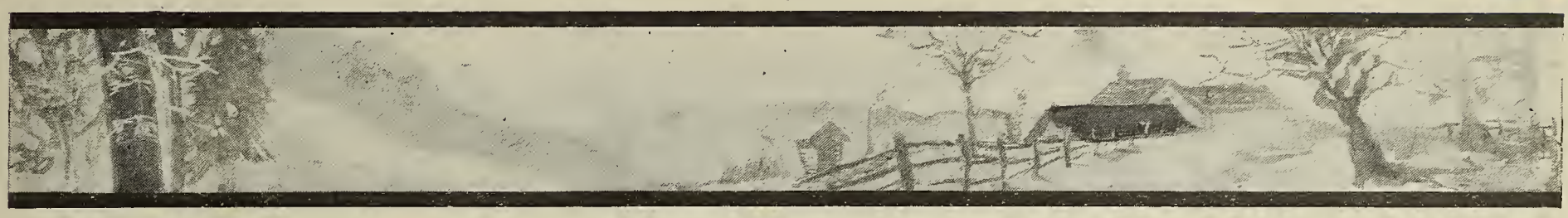

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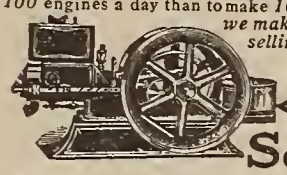

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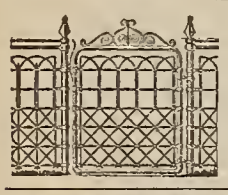

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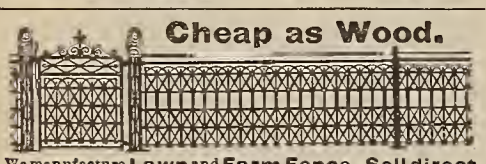

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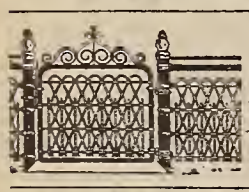

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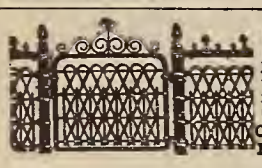

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With the Editor

THE best thing about visiting any great exhibition is, to me, the meetings along the way. I went to the International Stock Show this year with Doctor Henry—author of "Feeds and Feeding," builder of the great Wisconsin Agricultural College, champion for thirty years of the cause of the farmer and of education for farming. We went from Madison, via Milwaukee to Chicago.

Now a visit to the International is a fine thing at any time; but a visit to it with Professor Henry is a thing never to be forgotten. I would rather go straying through the back lot with Professor Henry than to visit the International with lots of men I know—and to visit the greatest stock show in the world with the professor is really not an ordinary thing.

We reach a station. The professor goes out on the platform, and comes in with a blue-eyed, weather-beaten old gentleman with "farmer" written all over him. He is an old pal of the professor's.

"I want you to meet Hank Smith," said the professor—though that isn't the real name. He takes FARM AND FIRESIDE, and I mustn't offend him by dragging him into publicity in his own paper. Mr. Smith is living on the same Wisconsin farm on which he was born—over sixty years ago. He was one of the events of the trip to me.

"I'm lettin' my son run the farm," said he, "but I kind of keep an eye on it."

"What are you feeding?" asked the professor.

"The grain ration," said our newly-picked-up companion, "is about a third barley and two thirds corn. We didn't have much corn this year, but we had lots of barley. I found that barley is worth a good deal more than corn for sale, pound for pound, and I looked it up in Professor Henry's book and found that they are about the same in feedin' value—so we hauled off two thirds of our barley, and we're shipping corn out by rail to take its place. It's makin' us some money, that trade, too."

* * *

I WONDERED how many of our readers would have looked the matter up in a book, to see what the value of two kinds of feeds are, in relation to the price. Some of them would, of course, but what proportion? And yet all this matter of feeding values has been worked out by actual test.

"You're a book farmer, then?" said I.

"Well," said he, "I don't depend on books as much as I might, or probably as much as I ought to; but when I don't know a thing, and it's handy found in a book, wouldn't I be a fool for not lookin' it up? I'd think mighty little of a doctor that would treat a patient from memory, when the thing he'd forgot, or maybe never knew, was in the books in his office; or of a lawyer who would try a case by guess-and-b'gosh, when he could know by lookin' in a book. I've done pretty well farmin', by rememberin' my mother's rule. 'Boys,' says she, 'don't fail to pick up all you can from the experiences of other people, for those experiences don't cost nothin'.' My mother said, 'Don't bother to survey the road to town when you want to know how fur it is. That's all been done for you by surveyors that made it a business. Take their figures on the distance. They're correct and they don't cost you a cent.' So I took Professor Henry's figures on the corn and barley. They're correct, and they don't cost me a cent, for the book has paid for itself long ago. The farmer who'll gather up and save what don't cost him a cent has got an awful advantage over the one that pays for everything as he goes along. The best things in life are the cheapest—and the most valuable of all don't cost a cent."

"Do you think the ration you are feeding your cattle is a balanced one?" I asked, just to see how far he went with his discipleship to Professor Henry.

"Nope," said he, "not quite. It needs a leetle mite of cotton-seed meal or oil-meal or some concentrate rich in proteids. But my boy don't favor buyin' of 'em, and (here he lowered his voice) I'm letting him buy his experience. No use forcin' it on him. He'll see before the feedin' season is over."

Now here was a man who responds to the test of the successful modern man in any vocation—the man who studies his business and applies the experience of others. The same thoroughness would have made him a successful physician or lawyer. Whether he has ever seen a college or not, I don't know, but his mind has acquired that quality which all education is a failure unless it gives—efficiency. He knew what he was about, and why. In the best sense of the term, such a man is an educated one.

* * *

WHAT agricultural papers do you take?" I asked.

(He had not been told my occupation.)

"All of 'em," he replied. "I don't know of any that I don't take, anyhow. The neighbors laugh at me when I take a hasket to get my mail in. But there's more of other folks' experiences in farm papers than anywhere else. I get it for nothin'—for the prices of 'em don't amount to anything. A fellow come along the road a few years ago canvassin' for a farm paper. I found it was one I didn't take and subscribed. My folks laughed at me—they always do when I subscribe for a new one; but in a day or two the hired man and I had some wire fence to change over from one line to another, and that very morning I found in the new paper a way described for saving time on the job. We figured that the scheme saved us a dollar, or maybe two, in time. So I had the laugh on 'em. I say that some farm papers are better than others, but I never saw one that wasn't worth more than it sells for."

This is the sort of people one meets when going to the International with Professor Henry. I believe he would dig up a successful farmer on the Bowery or in upper Fifth Avenue. When we reached Milwaukee, we went to a hotel for dinner—and Professor Henry found half a dozen successful farmers to sit at meat with.

One has operated a dairy on fifty acres in western Wisconsin, from which he has made a living, educated several children in the state university and now is really well-to-do—and he has the financial records of this life work. I hope to tell you more of this sometime—I have the visit planned. Another of the men is a well-known importer of Guernseys—the professor knew him when it was a great problem with him whether or not he could afford to buy one pair of pure-breds. He is known from sea to sea and across the water, now. My note-book was filling up. I had already been more than paid for my visit to the International—and I wasn't half way there. Moral: Go with the professor.

Herbert Quick

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FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City; Tribune Building, Chicago, Illinois
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FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

Vol. XXXIV. No. 9 — Springfield, Ohio, February 10, 1911 — PUBLISHED SEMI-MONTHLY

A Neighborly Introduction

Out of friendship to FARM AND FIRESIDE as well as interest in the welfare of your friends and neighbors, won't you help us to extend our list of acquaintances in your community? We will accept special introductory trial subscriptions of three months, for TEN cents each—giving you six big issues of FARM AND FIRESIDE. This offer is for introductory purposes only and your coöperation in making it known will be appreciated as a kind and neighborly act by all concerned.

It is not economy to keep good feed away from hungry stock.

If you have any hauling to do over the meadow, do it now, before the ground thaws out. A wagon, especially the narrow-tired, cuts the life out of a meadow when the frost is leaving it in the spring.

The horseshoe for luck over the door will soon be replaced by a worn-out auto tire.

There is a great howl about sending money away from home to the catalogue houses, but how about the home grocers ordering car-loads of potatoes, apples, etc., in other states rather than buying their own customer's truck? Eh? How about that?

This is a good time for spreading manure over the fields you will break up later on. While it may not rot down enough to have much fertilizing effect this season, it will be in the soil and safe from losses by leaching.

The farmer is not losing interest in the county fair, nor is his city neighbor. At one tri-county fair in the South recently the attendance during four days was between twenty-five and thirty thousand, about six thousand more than the year before. The agricultural, poultry and live stock exhibits at this fair were also an improvement over last year.

Governor Deneen of Illinois recommends to the legislature of his state a revision of the grain-inspection laws. They need it. And in this connection the views of the grain companies would be pertinent on the inspection of Illinois legislators.

The Fight on Tuberculin

CATTLEMEN as a rule are unfavorable to the tuberculin test for cattle. And yet they must admit two things—first, that it is a reliable test for tuberculosis and, secondly, that whenever an animal is shown to have tuberculosis, nobody can say that it is not endangering the family of its owner, his swine, his fowls and, in fact, the whole neighborhood.

If a leper were known to be in any community, there would be a panic; and yet one tuberculous cow is a greater menace to the health of the people than a dozen lepers.

To be sure, there are cattle which have encysted or calcified tubercles in their bodies, which will probably never be a source of danger, and which will be condemned if tested. But does that signify? The owners of tuberculous cattle are prone to take the position that it must be shown without doubt that infection will proceed from them before condemnation. The world will be much more apt to say that every animal which may possibly be a source of contagion must be condemned.

Not all farmers are opposed to the test—far from it. The University of Wisconsin has been obliged to take up the manufacture of tuberculin, because the demand is greater in that state than the United States Department of Agriculture can supply. That is, there is a demand for more than thirty thousand doses a month in Wisconsin. This demand is mostly from farmers and mostly for voluntary tests.

There is deep significance in this for other states. The University of Wisconsin has been for years carrying the truth as to tuberculosis in cattle to the people of the state. No effort was made to jam any test system through. The people were asked to go only so far and so fast as they believed in going. They were shown that it will be in the long run greatly to their interest to clean out their herds. In the meantime a great many people, not veterinarians, have been taught at the university to administer the test. There are hundreds, if not thousands, of farmers in Wisconsin who have credentials showing them to be experts in tuberculin testing. They are the ones who are asking for more than thirty thousand doses a month. They are the ones who are forcing the state to start a tuberculin factory. The farmers of Wisconsin are moving in the direction of stamping out the scourge from the herds of the state. Some will say that this cannot be done—but that is too much to say. It probably can be done. It will be a hard and possibly a long fight; but when it is won the herds of Wisconsin will sell at prices that will be the envy of those regions where the cattlemen are fighting progress and sanitary science by fighting the tuberculin test. It will be vastly better if they will study Wisconsin law and the democratic, sane methods of Wisconsin. The fight on tuberculin, after all, we believe, is more the fault of tyrannical and mistaken policies on the part of the authorities, than of the narrow views of stockmen.

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Twenty-Five Big Features
Here are just a few of them:

The New Kind of Country School
The Editor has been to Page County where the New Schools grow. February 25th he will tell our readers what he saw.

A Canning Factory on the Farm

The Hydraulic Ram—Always On the Job

Bee-Keeping for Farmers—Its Practical Possibilities

Money Value of Horsemanship—By David Buffum

C. C. Vincent's Authoratative Fruit Articles On "Planting," "Pruning," "Frost-Fighting," "Spring Insect and Fungus Pests," etc.

Dr. S. A. Knapp's Article in This Issue is the First of a Great Series

Big Special Poultry Features
In Every One of the Coming Big Issues

Growing Brown Cotton

MOST people will be surprised to know that there is such a thing as a naturally brown cotton. It is grown in Egypt, and we imported nearly seventy-three million pounds of it in 1909, paying for it prices almost as high as those demanded for the best sea island cotton. For some things this brown cotton of Egypt is better than any other. The Department of Agriculture has been for some years experimenting with varieties of this Egyptian cotton for the United States, and has issued a bulletin on it—Bulletin No. 200 of the Bureau of Plant Industry. This may be a good thing for our friends in the cotton belt to look into.

A Chance for Better Schools

MOST people know that some very important laws are pending in Congress for national aid to education; but few seem to understand how important the matter is or, we think, there would be more activity among the people in relation to it. And in this connection it should be borne in mind that national aid to education is no new thing. Most if not all our state agricultural colleges receive aid from the federal government. Agricultural education has received such help from the nation as to account for a large part of its extension. And most of our newer states have received great grants of land from the government in aid of schools.

The bill now pending—the Dolliver-Davis bill—is the result of years of labor on the part of committees and seems to be in form to pass.

It is, in brief, a measure to extend to secondary schools—by which is meant schools above the primary and below the colleges—the aid of the United States Treasury in establishing and maintaining the teaching of agriculture, domestic economy, trades and industries. In short, it is a bill for vocational education. To farmers it seems more important, if possible, than to others, because the rural schools are poorer in vocational bearings than any others. The bill also provides for funds to aid normal schools in the preparation of teachers to carry on the work it seeks to establish.

The Dolliver-Davis bill, if passed as drawn, will affect the schools of every state, and sooner or later, in all probability, every school-district in the country.

It will appropriate five million dollars a year beginning with 1914 to each of the states and territories, in proportion to population, for "instruction in trades and industries, home economics and agriculture;" four million dollars annually, beginning in 1914 for secondary agricultural schools, allotted to the states and territories in proportion to farm population; one million dollars annually for branch agricultural experiment stations allotted according to farm population, provided the state appropriates for the same schools an amount equal to its allotment of United States funds; ten thousand dollars to each state for extension work to be carried on by its college of agriculture and the mechanic arts; one million dollars to be allotted according to population for the training of teachers for the work.

Such are the essential and controlling provisions of the act. There are other and important provisions in it, but these are the substantive ones. No doubt the law if enacted will be one of the most disturbing ever passed—to the ordinary mossback school system. For in order to get the benefit of the law, a lot will have to be done locally and by states in the way of betterments. It will, we think, result in a great acceleration of the movement for consolidated rural schools and rural high schools. That is why we are for the bill.

The New Samson

THIS is to be a do-nothing Congress—or so say the Washington despatches. One reason given for the predicted failure of the Senate to pass any of the laws so strongly urged by statesmen of the dominant party, who see in the time between now and the fourth of March a period meet for death-bed repentance, is that its time will be taken up in the Lorimer case filibuster. Which reminds us that if Mr. Lorimer loses his seat, he will still have done noble work in killing the legislation he was placed there to kill. Like Samson, he will slay more in his death than he could possibly have slain in his official life. It is also a fact that there are more ways to kill a cat than by choking it to death with cream. There is more than Lorimer in the Lorimer case.

Mr. Laurence Sterne says that when it is once determined that any innocent creature shall be sacrificed, there lacks not fuel in any thicket into which it may have strayed to offer it up withal.

It's very much the same with bills.

Soils Live--Keep Them Alive

How We May Conserve the Riches Underfoot—By B. L. Frame

FARMING in America has yet to be learned. The United States has been a nation of crop-growers, not farmers. When the country was new we found the soils fertile; we have drawn annually on the rich deposits of Nature. At first possibly this was a wise practice, at any rate it was inevitable. Thousands of farms are now so reduced in fertility that they are beginning to show it in decreased yields. Thousands of others are still worse off. Many a farmer makes a bare living, and every year his land gets poorer instead of richer. There is not a state in the Union that is an exception. Ohio, Alabama, Colorado, Illinois, Washington, every one of the richest states has learned, or is learning, that constant cropping will use up available plant-food.

In the past, men have gone "farther West;" to-day they are going to the newly-irrigated lands, and to Canada. Soon there will be more new lands open.

But there are undiscovered riches within our own boundaries. It is cheaper to take possession of what is under our feet, rather than what is many miles away. It is time to learn farming.

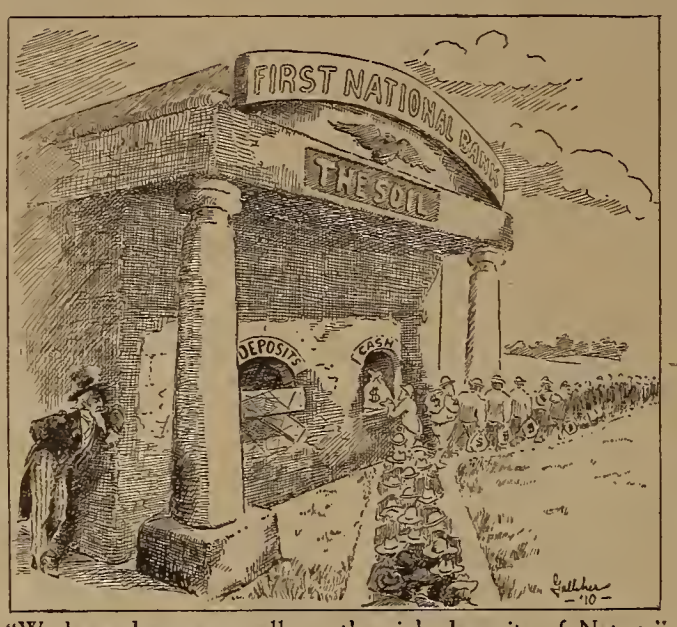
In the past our agriculture has been, in a sense, as much mining as farming, in that riches were being taken from the soil and nothing returned. No use lamenting that now. The riches were there, and our economic system—in fact, our common sense—led us to take them as rapidly as we could—until the realization came that the supply was not inexhaustible. We know that now. What are we going to do about it?

In the Old World men know better than we how to farm. There are fields in the Old World that were old fields two thousand years ago, and they are far more fertile than even the best fields of America. Let us begin to learn soil-building, then, rather than soil-mining, of which we already know enough.

The Life in Soils

WHAT constitutes soil fertility? All is not known about it yet. Some things, however, are known. Soils are living, growing, breathing things. We mean by this that "live," rich soils are living things. They are inhabited by millions of microscopic organisms commonly known as bacteria—distant cousins of the disease-producing bacteria, which are the black sheep of the family. The soil bacteria carry on beneficent and useful functions, and the more of these bacteria a soil has in it, the richer, the more productive it is. The fewer bacteria, the "deader" it is in every sense; the less possible it is to make a profit from it. There is absolutely no evasion of the law that "a rich soil is a living soil." Now we want to know how a living soil can be made.

First, get the water out of it, the stagnant water. Drain the land, if Nature has not done it for you. Air is necessary to life. Then, if the soil seems to be sour, put lime on it. Carbonate of lime is the source of fertility. It promotes wonderful bacterial life in soil. It promotes fertility by stopping the waste of nitrogen.



"We have drawn annually on the rich deposits of Nature"
The bank has wonderful resources, but it cannot stand the drain forever

Soils filled with carbonate of lime naturally tend toward an increase in fertility. What is carbonate of lime? It is the natural, unburned, ground limestone, made in imitation of the way Nature made soils in the beginning. Nearly all soils have too little carbonate of lime in them to make maximum crops. The best farmers east of the Mississippi are all using lime to-day.

What else can we do to make a soil truly alive? Bacteria love lime, yes, and vegetable matter in the soils. Living soils have humus in them—humus being, practically, decaying vegetable matter. The more of this, the more bacteria, the more plant-food.

Manure makes land rich. Can you remember that? "Pshaw!" you exclaim, "my grandfather knew that." Yes, your grandfather knew it, your father forgot it; you are beginning to learn it for yourself. Agricultural truth is as old as the pyramids. Indeed, the ancient peoples knew more than we know about most things pertaining to soil-building. Our latest discoveries are only confirming what the ancients knew. Manures make land rich! This is the vital truth that needs to be impressed on the American farmer to-day.

Phosphorus added to the manure doubles its efficiency. "Hold on," you exclaim, "what is this phosphorus?" It is the vital element in bones, it is the true source of life in man, beast and herb. Director Thorne of the Ohio station proved that manures reinforced with phosphorus yielded double what they did without it. You find phosphorus in mines of fossil rock in Tennessee. You buy "floats," or fine-ground Tennessee rock, mix that with your manure, or buy "acid phosphate," the same rock treated with sulphuric acid, and mix that with your manure. Either will about double the usefulness of the manure.

The Cash Value of Manure

"MANURE, what is it worth, anyway? It is a lot of work to handle it. Will it pay?" You ask this, and Thorne of Ohio and Hopkins of Illinois answer: "A ton of manure may be worth in general farm crop returns as much as four dollars." That is perhaps an extreme estimate. It is never worth less than two dollars. A horse makes at least twenty-five dollars' worth of manure in a year, and usually considerably more. A steer makes twenty dollars' worth, and a sheep two dollars' worth. You keep a good many cows, horses and sheep. Are you neglecting this, the best of all revenues? Best because it remains a permanent asset of fertility on your land. It makes your farm worth more.

"Oh, well, don't worry, I haul the manure out every fall." You do, do you? Has it lain in the weather or in piles firing, all summer? Then, it has probably lost a little more than half its value. Then you have hauled it out in a wagon and with much disagreeable labor spread it imperfectly on the land. A few spots you have made too rich, so that the grain falls down; while other spots have gone untouched.

Now, to get the true value out of this manure, don't you know you ought to own a manure-spreader, haul out the manure as fast as it is made, and get it spread evenly over the land? A ton of manure thus spread is worth four tons left to lie in the yard until fall and imperfectly spread. For manure carries bacteria; manure carries life to the land.

A short, simple, true story. A man bought a sixty-acre field of poor soil. Its last corn crop was twenty bushels per acre. He drained it and let the water out. He sprinkled over it a little manure, and some phosphorus. Clover was sown. Clovers love bacteria and gather fertility. The clover grew. Corn after clover made forty-five bushels per acre. Again a light covering of manure, again a trifle of phosphorus, then clover-seed. Heavy clover resulted. On the clover-sod he raised sixty-five bushels of corn per acre; coming up, you see!

Still again manure, again a trifle of phosphorus, a few more drains. Then clover, marvelous clover. Then corn, eighty-five bushels per acre. Now alfalfa; the first crop harvested made two tons to the acre. This is the history of a representative field.

A Pipe-Dream That is Not All Smoke

Another Letter From an Alabama Dairy Farm—By H. F. R.

A LITTLE while after my last letter was written, I went over one sunny day to Silverhill, a village of a dozen or two houses, eight or ten miles east of here. I went after a plow which had been left there to be repaired by an expert blacksmith. It was a bright, cool morning when Jet and I started. She is the family horse-of-all-work that helps out the mules.

The roads were unspeakably bad, but I jogged along contentedly in a springless one-horse wagon. I looked like a farmer; I was browned and sunburned enough to be taken for one, and I was a farmer. I said to myself, over and over again, "My! don't this beat practising law, that miserable old life with its interminable worries and cares and grinding drudgery." I shuddered when I thought of those endless hunts for authorities in endless rows of calf-bound volumes, the tedious and hair-splitting distinctions to be drawn from them when found, precedent on precedent, technicality on technicality. And then the court-room battles and the eager scramble for success, where success for me meant failure for the other fellow.

It seemed a horrible nightmare of a life compared with this—this life of freedom, in the open, the pleasant breeze, the flashing foliage, the resonant pines and chasing shadows. What a blessed privilege to have been able to make the exchange and to joy in it still, even after having tried it for a year and more. I patted myself complacently.

Drawbacks Easy to Forget

BUT coming home in the afternoon the sun was hot and it was in my face. I had scorned to take an umbrella. The idea of a farmer bothering with an umbrella on such a trip! I had also economized, as all good farmers should, and made my dinner off of ten cents' worth of crackers and cheese bought at the village store, with no beer—it's prohibition here—instead of paying fifty cents for a comfortable meal at the hotel. I regretted it, not the prohibition, thank goodness, but the saving of that half dollar, and the fact that two thirds of my lunch remained untouched did not console me either.

The sandy hills down which Jet trotted merrily going were quite different returning. Jet was lazy. She did not mind the whip. She just poked along in the blinding sand and blistering heat. And I must admit that I almost had a passing feeling of regret when I thought of my former law partner, at that very moment, doubtless, under an electric fan in our old office, so clean and cool and comfortable. However, when Jet and I had finally driven into our big, breezy, tile-roofed and cement-floored barn, with its shutters up and panels removed so as not to obstruct the wind from any quarter, and had refreshed ourselves at one of the watering-troughs, and I realized that my work for the day was over, it did not seem so bad after all, this simple life of the farmer, despite its occasional hardships and drawbacks.

That evening when the sun was set and our pipes lighted, Captain Jack and I discussed the trip and the country over which I had passed and the people living in that vicinity. I had met only one team on the entire journey. I had traveled for miles at a time without seeing a sign of a human habitation, although I was on the main road from Fairhope to Silverhill. As I remember it, I had only gone by eight small farms.

This reminds me. Baldwin County, in which we are living, is about the size of the state of Rhode Island and has a population of only seven thousand or thereabouts. What lots of room for more people! It is bounded on the south by the Gulf of Mexico, on the west by Mobile Bay and on the east by the river Styx of classic name, the western boundary of Florida. "Captain Jack," said I, "if we make a success of this blooming farm [I used that word in deference to the English in him] we will have to do it along different lines from anything I came across to-day. I have not seen a single farm which indicated prosperity. If I had land to sell hereabouts I should hate to take a prospective buyer over that road; nothing to show except a few little patches of sickly-looking cotton and spindling corn-stalks."

And so Captain Jack and I talked of the unprepossessing appearance of farms and of farm life as a general rule everywhere about us. It was so different from what one coming from farms in the North is used to, and we concluded that the kindly knockers in Fairhope, who had assured us over and over again that farming was no good in this part of the world, had reasons a-plenty for saying so. But this did not discourage us in the least. How could farming pay if the farmer's only idea in handling his land was to apply five to ten dollars' worth of commercial fertilizer per acre to it, year after year, and nothing more, and thus steadily burn the humus out of the soil? Again, where can a permanently prosperous farming community be found, the country over, entirely lacking in good sleek cattle, improved pastures and meadows, with plenty of stuff raised to feed to cattle and hogs? And what else but failure could be expected of one trying to raise stock who placed the slightest reliance on the almost worse than useless free range around us on which good cattle die and scrubs, sired by scrubs, barely survive, eaten up by ticks in summer and starved and chilled to the bone in winter?

A Dream, Likewise Some Figures

WE DISCUSSED the situation and again went over our joint pipe-dream as to how a man with comparatively small means, say one or two thousand dollars, could take forty acres of land, in Fairhope colony or thereabouts, and in ten years accumulate a handsome competency. Strange as it may seem, we decided that he could do it with greater ease and certainty in this land of mild winters, despite appearances to the contrary, than where it freezes and snows and sleets for four months in the year.

This is the way we figured it out: The home-seeker whom we had in view comes here and takes a ground rent lease for a long term of years on forty acres of colony land within two or three miles of Fairhope. He could buy privately-owned land equally as good as to location and quality, but six hundred to a thousand dollars of his capital would be absorbed in its purchase. It would cost him from fifteen to twenty-five dollars an acre. By taking his land from the colony, however, he would be able to retain his entire capital and use it all for improvements and expenses in getting started. His first semi-annual payment of rent would not amount to more than twelve dollars, or thereabouts, at the rate of perhaps sixty cents an acre per annum to begin with.

In our opinion he would get just as good a title to his land, for all practical purposes, under the colony plan as though presented with a fee simple deed to it, free from encumbrance. The colony can do this largely because of the generosity of Joseph Fels, the millionaire soap manufacturer of England and America. His donations for the purpose of making a practical demonstration of some of the features of the Henry George idea

[CONCLUDED ON PAGE 24]

Breaking Dad's Record

The Story of Boys' Corn Clubs in the South—By Seaman A. Knapp

Dr. Seaman A. Knapp, at the age of seventy-seven, is directing the most noteworthy work that is being done in America to-day—the far-reaching campaign that is redeeming the education as well as the agriculture of the South, and perhaps of the whole nation. Thousands of men are coöperating in the movement, but Doctor Knapp is its originator, its organizer and its prophet. He here presents an intimate, interesting account of one factor in the campaign—one of the big factors. EDITOR.

A FEW days since two very interesting young women were escorted to my office by Chief Clerk Jones of the Bureau of Plant Industry and introduced with the explanation that they wanted to know something about the Boys' Corn Club work. I was about to excuse myself, owing to pressure of business, when one of them remarked that she was a school-teacher from New York, knew something of practical life, managed her own farm and as a teacher wanted to use any knowledge she might obtain of the Boys' Corn Club work for the benefit of the boys of her state. This won me and I discovered suddenly that I was not so pressed for time as I had supposed.

"Kindly commence at the beginning," said the teacher, "and tell us something of the origin of these clubs; how they are organized and instructed, and what you expect to accomplish by this work."

"Rather a long story," I remarked, "but I will tell you some of it.

"The Boys' Corn Club work was organized under the United States Department of Agriculture to enable the common-school teacher to teach real agriculture."

"Can't real agriculture be taught in the schools by the use of good text-books?" hesitatingly asked the teacher.

"No, not real agriculture. Good text-books give a great many valuable suggestions about agriculture, but the real science can only be learned by practice upon the farm. The laws in a number of Southern states required that agriculture should be taught in the common schools, but compliance with the law was mainly zero. The difficulty was increased from the fact that nearly three fourths of the rural teachers were women."

An Educational Acre

"THE difficulty was met by organizing the Boys' Corn Clubs. The county superintendent of public instruction and the rural teachers select the boys and organize the clubs. The Farmers' Coöperative Demonstration work of the United States Department of Agriculture furnishes the plan and the instructions; the teacher sees that each boy thoroughly understands them, and the county farm demonstration agents assist in supervision of the field work. Each boy takes one acre upon his father's farm and works it under the instructions and at the end of the season he must furnish a complete account of each field operation and its cost, for the prize is for the largest yield at the lowest cost per bushel.

"The bankers and merchants furnish the prizes. There is also a special honor prize. The boy who wins in his county is awarded a diploma by the governor of the state. The boy who stands highest in the state is given a free trip to Washington and is awarded a diploma by the Secretary of Agriculture.

"The Boys' Corn Clubs have accomplished more than was deemed possible. They have taught the boys how to study agriculture and how to apply written instructions to the farm; they have given the boys a new and larger view of the possibilities of the soil and they are filled with an ambition to become great farmers because they have achieved something of note and they see a great future in the vocation. The boy in the club has learned one thing well and he will strive for the rest.

"There is more in this Boys' Corn Club work than merely learning how to produce a good crop of corn; it has suddenly transformed boys into men and in some cases into heroes. It has also been a most potent instrumentality in influencing their fathers to adopt better methods. There are some farmers who will not accept a modern system of farming. They persist in using implements and methods antiquated a thousand years ago. But when their boys make a great corn crop and bring home the prizes, they mellow and 'come across.'"

The boys have solved the problem of cheaper food for the masses—more corn and how to raise it. Nine Southern states—Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas and Texas—produced in 1910 over 158,000,000 bushels more corn than in 1909. To 46,225 boys in clubs, studying and making corn, is due a large measure of credit for the achievement.

Here's Corn-Growing for You

THE Boys' Corn Club work for 1910 is showing some wonderful yields. In one club of forty-eight boys in Mississippi the average was ninety-two bushels per acre. Nineteen boys in South Carolina received certificates from the government for great yields. Many boys in the different states produced over one hundred and fifty bushels per acre and a few went beyond two hundred bushels to the acre. Jerry H. Moore of Florence, South Carolina, fifteen years of age, son of a country Methodist preacher, holds the record for the highest yield for the year, 228¾ bushels, weighed and measured by three responsible men.

Where teachers did not organize a club, in some cases the field agents of the Farmers' Demonstration Work organized them. James H. Kelly, of Alcolu, South Carolina, formed a club and in his final report gave the following instance:

"One boy in our club was very anxious to work an acre in corn. His father gave him one on condition that he dig out the pine stumps and pay all expenses. After the boy had gotten out nearly all the stumps in the field, the father took that acre and gave him another, upon the same condition. The boy went to work, cleaned this new field and plowed it. Then I advised him to plow it again. When the boy wanted some fertilizer his father refused to permit him to buy till I went security and promised to make good all losses, if any. The boy's corn was measured this week and made eighty-four bushels to the acre. His father's corn, on three sides of the boy's, made nine bushels per acre. When the corn was weighed and the father's went to the pigs and the son's sold for seed corn at two dollars per bushel, the father changed front. It was rich to hear him talk about his son's crop. He said if he had known how to make corn twenty years before he would have had decent clothes now and be rated as somebody."

Upper Picture—The Boy Who Made Fifty Bushels of Corn With a Goat at the Plow. Below—Jerry H. Moore and the Corn From His Acre—228¾ Bushels

A Girl Corn-Grower

IN CLARENDON COUNTY, South Carolina, there were one hundred and forty-two members of the Boys' Corn Club, and the average of all was sixty-two bushels per acre. One little girl, fourteen years old, Hannah Plowden, of Manning, South Carolina, wanted to join the club. She made one hundred and twenty bushels and was lionized by her neighbors. Among other honors the county sent her to the great corn exhibit at Columbia, South Carolina. While there a stalwart senator was introduced to her and remarked that he felt like hugging any girl that could accomplish so much, and banteringly said, "I know a dozen boys in my county who want to marry you." The girl replied, "There are a hundred boys waiting down in Sumter County."

At Rogers, Arkansas, Earl Hopping, a boy fifteen years old, joined the Boys' Corn Club, but his father was unable to furnish him a horse or mule to work his acre, and he broke a goat to harness and did all the work with it. Note, in the accompanying picture, the determined look of the boy, in which the goat shares. Also observe the plow adjusted to the goat and the cart for hauling fertilizers.

I paused a moment in my rapid outline of the Boys' Corn Club work, given much as I have given it here, and the teacher remarked: "How interesting! I should like to learn the yield of corn per acre of some of the boys."

"I will give you the names of the winners of the first prize in each state," I replied. Here is a duplicate of the list I handed her, giving the names and addresses of the winners of the trip to the capital of their country, and also the yields of their respective acres and the cost per bushel:

Hughey A. Harden, Banks, Alabama, 120 bushels, 32 cents per bushel.

Ira Smith, Silver, Arkansas, 119 bushels, 8 cents per bushel.

Joseph Stone, Center, Georgia, 102 5-8 bushels, 29 cents per bushel.

Stephen G. Henry, Melrose, Louisiana, 139 8-10 bushels, 13.6 cents per bushel.

William Williams, Decatur, Mississippi, 146 4-7 bushels, 18 cents per bushel.

W. Ernest Starnes, Hickory, North Carolina, 146 2-7 bushels, 38 cents per bushel.

Floyd Gayer, Tishomingo, Oklahoma, 95 1-12 bushels, 8 cents per bushel.

Jerry H. Moore, Winona, South Carolina, 228 3-4 bushels, 43 cents per bushel.

Norman Smith, Covington, Tennessee, 125 1-2 bushels, 37 cents per bushel.

Wm. Rodgers Smith, Karnes City, Texas, 83 1-9 bushels, 13 2-3 cents per bushel.

Maurice Olgers, Sutherland, Virginia, 168 bushels, 40 cents per bushel.

In addition a second prize was given from South Carolina, and one from the Sixth Alabama Congressional District. These were won by:

Archie Odom, Bennettsville, South Carolina, 177 3-4 bushels, 23 cents per bushel.

John Williams, Tuscaloosa, Alabama, 83 3-4 bushels, 49 cents per bushel.

"There are points in that list worth noting, aside from the remarkable yields," I pointed out to my visitors. "You will note that the extraordinary yield of Jerry Moore was secured at a greatly increased cost per bushel. This follows past experience that excessive yields are not so profitable as medium yields. Probably one hundred to one hundred and twenty-five bushels to the acre, on an average, yield a larger net income than two hundred bushels or over. The product of Archie Odom, 177¾ bushels at twenty-three cents per bushel is really more of an achievement than that of Jerry Moore, 228¾ bushels at forty-three cents.

"You observe that the yield on the boys' fields is far in excess of the men's demonstration farms. The reason is that the boys follow instructions closely: the men think they know how to make a corn crop and they are guided largely by a personal experience of little value."

Everybody Helps

"THE crop of corn produced in a state has been affected more readily by the work with the boys than with the men. When the boy wins, the father, mother, sisters and neighbors soon know it and become converts."

"It is a wonderful work. The magnitude of it is scarcely conceivable," exclaimed both visitors. "Does the Department of Agriculture do all this for the people, without aid?"

"By no means," I replied. "In Virginia, Governor Mann and State Superintendent of Public Instruction Eggleston are most influential supporters, and the state government is back of the boys' corn movement. In North Carolina and Georgia the state colleges of agriculture are coöperating financially and influentially; in South Carolina the state commissioner of agriculture is a most efficient supporter, and that state directly gives aid; in Alabama, Mississippi, Louisiana and Arkansas the state colleges of agriculture, the state commissioners of agriculture and the superintendents of public instruction are efficient coöperators. In Oklahoma and Texas the agents of the Farmers' Coöperative Demonstration Work organize the clubs. The national Department of Agriculture does much, but everybody helps."

"It must cost a large sum of money," remarked the teacher.

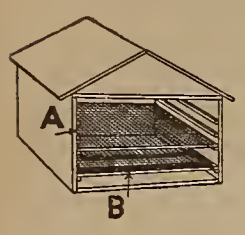
"Not as much as you would suppose. The General Education Board of New York contributes liberally; states, counties, corporations and individuals lend financial aid and have reduced the expenses to thirty cents for each boy's farm that is worked under demonstration."

"The whole story sounds like a fairy-tale," said the teacher. "Are you sure it's real?"

"It is intensely real to the boy who toils under a sultry sun six days in the week to work his acre and in silent solicitude watches its growing on Sunday; it is a welcome conclusion to the doubting father; it is the fruition of a dream to the fond mother; it is simply a novel to such as hear the tale, but never saw the boy."

The Headwork Shop

Chick Leveler



THE coop here sketched is designed to prevent chicks from piling up and smothering. A screen tray (A) is made to slip into three different slots, between cleats on the sides of the coop. When the chicks are small, put it in the lowest slot at such a height that it is just over their heads. They cannot pile up to any extent then. As they grow, put the screen in higher slots.

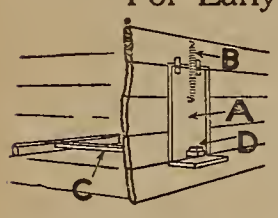
The floor (B) which the chicks lie on is made of screen reinforced with laths. This is placed in a slot about one inch above the solid board floor of coop. This makes the floor very little colder and is very valuable in that it makes sure of a supply of air in case the smallest chicks should pile up a little. This screen floor is but little trouble to take out and clean. JESSE RAHN.

Practical Self-Feeder

HERE is a self-feeder I have worked out and used. It will never clog nor stop. Take a tin or galvanized iron pipe eight inches in diameter and two feet long. At the bottom of the pipe have three L-shaped pieces of strap iron (AA) riveted at equal distances apart around the circumference. Put the shafts of three thumb-screws down through holes in these L-shaped pieces and through holes in the bottom of a pan (B). A single thumb-screw and attachments are shown at the right. The thumb-screws enable one to adjust space between pipe and pan so the grain will feed out just right. Bend a heavy wire for handle to hang feeder from ceiling by, at right height for birds to reach conveniently. In the center of pan make hole and put through a string with button or big knot on it, the lower end of string being fastened to screw-eye in floor to keep feeder from swinging about. This feeder holds about twenty-five pounds of dry mash.

H. N. SKINNER.

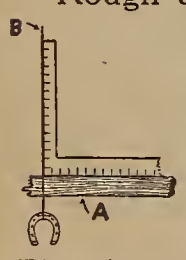
For Early Birds



THE purpose of this device is to release chickens from their roosting-quarters at daybreak. Make the door (A), through which the chickens pass, about twelve inches square and of light wood. Hinge it at the top to open outward. This door is lifted by the coiled spring (B). A notch about one inch square is cut in the middle of the lower edge of door. The trigger (C) is hinged at its inside end onto a roost or a crosspiece specially placed. On the outer end nail a light block of wood (D) which the notch can pass over freely when end of trigger is down.

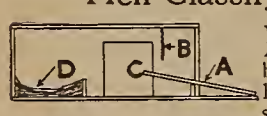
When the chickens are settled for the night, make sure that none are roosting on the trigger, then close down the door and raise the outer end of the trigger so the block catches on the door. It will hold there because of the pressure of the door, pulled by the spring. At daybreak when the chickens begin stirring around one hops on the trigger, depresses it and lets the door open. The door I have on my hen-house has not failed to open at daybreak every day for six months past. J. W. FOSTER.

Rough and Ready Level



AS THERE is always an old square, string and horse-shoe on every farm, and seldom an accurate level, a good way to solve the level problem is to tie a horse-shoe to a string which will serve as a plumb-bob, and setting the square down on the timber to be leveled (A), hold the plumb-line (B) so it runs down the vertical edge of the square. Adjust timber so the plumb-line coincides accurately with side of square and you have the level. "OLD CHIP."

Hen-Classifying Nest

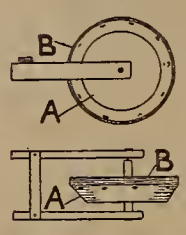


NESTS are called "trap" nests when by some device the hen is confined after she has laid. By using trap-nests, the poultryman can keep tab on how many eggs each hen is laying and also on the eggs of each individual hen. The simple trap-nest sketched herewith, in cross-section, makes it unnecessary to visit the hen-house two or three times a day in cold weather to release the hens. It does not distinguish the eggs of each hen—it simply separates the laying hens from the non-laying, and in the majority of cases that is sufficient.

Build a box about fifteen inches high, twelve inches wide and three feet long. One end is left open with a teeter-board (A) extending sixteen inches into the box. Just above the inner end of the teeter-board a piece of wire netting (B) is stretched across the box. This netting comes down far enough to prevent the hen from coming back, but leaves room enough to let her put her head under when entering. Just in front of the nest proper (D) there is an "exit hole" (C) into another yard. The teeter lets down as the hen goes in, and rises into place as she steps off. After she has laid she cannot return to the original pen, but must go out the side hole into another yard. At night all the hens that have laid are in one pen, and those that have not are in another. Above the nests is a hinged door (not shown in illustration) which allows one to gather eggs and remove nesting material.

ARCHIE E. VANDERVORT.

A Seeder for a Few Cents



ONE can make a cheap seeder, to drop seed behind the plow, in the following manner. Take a tin pan that holds at least a quart. Cut a board round and a little larger than the pan, and screw pan (A) to the round wood wheel (B). Near the rim of pan punch in some holes as far apart as you want the seed. Have a stoppered hole in the board wheel through which to put in seed. In center of wheel and pan make a hole to put through a bolt for the axle. Make handles and put axle bolt through at the end, and fasten other end to plow. Let seeder run back of plow. The whole affair costs less than twenty-five cents. It will drop all small seeds—cane, milo, Kafir-corn, broom-corn and all the like, and will do as good work as any single-row planter, except that it will not cover the seed. The next round, however, will cover it with the plow. H. N. KERR.

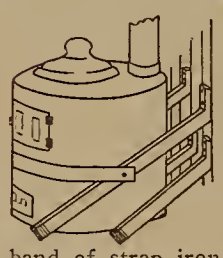
Powdering the Poultry

HERE is a handy way to manage the massacre of the lice and mites. Put a small handful of Persian insect-powder in a large lard-can which must be clean and dry inside. Then put the chicken in the can and close the cover down tight. Roll the can over and over several times. In its struggle to keep upright the chicken gets powder all through its feathers. Stand the can up before removing the cover, and you can make the powder last for a lot of hens.

Persian insect-powder is death to lice, though harmless to creatures having lungs. Do the work rapidly as possible, however, so the hen will not smother.

MRS. A. L. PHILLIPS.

Bracket Stove



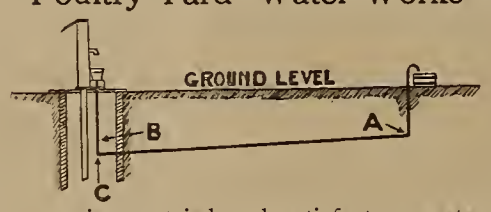
IF YOU have a small iron stove, try this plan of putting it on brackets. One brace goes underneath at rear, another near front, and the front one has a round band attached to hold the stove from slipping forward. The braces should be of bar iron, the round band of strap iron, and these parts can be varied in shape to fit the stove, of course. With this arrangement there need be no mat under the stove, it is out of the way of the broom, and best of all it is out of reach of creeping babies. I have found this scheme an all-round comfort and especially desirable in small rooms. MRS. ROBERT BOWLES.

A Ladder Transformation

USE a short ladder and two stout poles about eight feet long and three inches thick. Bore holes in the tops of the posts large enough for a ladder rung to work in easily. Take out one end of top rung of ladder and slip it through the holes in the posts. Replace rung in ladder and fasten it tightly. Fasten the posts together with stout braces (XX) at top and bottom, and you have a safe and handy step-ladder.

L. E. BATCHELLOR.

Poultry-Yard Water-Works

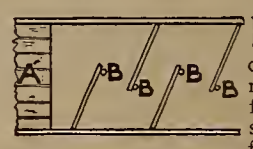


THIS is my tried and satisfactory system for supplying water to the poultry-yard. A one-inch iron pipe extends down through well platform three feet, then through side of well, thence underground to the point where water is required. At A the pipe is reduced to one half inch, the same extending above the ground and curving over basin.

The main pipe should be two or three inches higher at the point A than at the point C, where it leaves the well, and a very small hole is drilled in the vertical pipe in well (at B) exactly on a level with the point (A). Now the water will always stand in the main pipe from B to A and will always be cool in the summer and warm in winter. The small hole at B permits the rest of the water in the pipe to drain out into the well, so there will be no water in the upright pipes to get warm in summer nor freeze in winter. A drain cock may be used at C to drain entire pipe should it ever be necessary. There should be a strainer in the funnel under pump-spout to prevent rubbish from clogging the pipe.

Every time the pump-handle is given a few strokes, fresh water is forced out of the ground pipe into the basin and without trouble the water will be renewed many times during the day. S. E. CRESS.

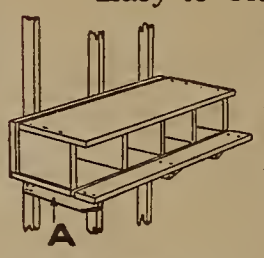
Fools the Chicken-Eating Sow



IF YOUR sow has the trick of catching chickens in the pen, nail boards or rails from sides of pen to stakes (BBBB) thus forming three-foot alleyways in manner indicated. The boards should be high enough from the ground so chickens and pigs can pass under, but too low for the sow, thus compelling her to follow the zigzag alleyways in her chase after the chickens, in which she will come out second best. The end of feeding-floor is shown at left, marked A.

For protection against a chicken-eater in an open field, remove the end ring from a trace-chain and attach a strap to a link in the middle of the chain, and buckle the strap around one of the sow's front feet above the front and below the back toe nails of the same, care being taken not to produce a sore from galling. This leaves the two ends of the chain to drag the ground, and in an attempt to run, the sow is sure to step on one or both ends of the chain with her hind feet, and be forced to halt, while the chain will not materially interfere with her slower movements. J. R. CLARK.

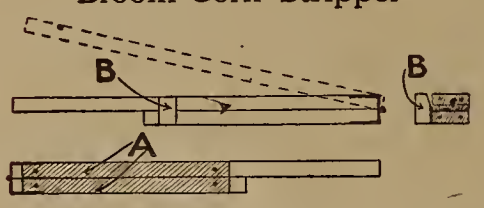
Easy-to-Clean Nests



NAIL pieces (as A) to studding of hen-house to rest the device on. Nail on them a twelve-inch board for the floor of nests, and in front of that a four-inch board to make a step in front of nests. The back is sixteen inches high and nailed to studding. The top is sixteen inches wide and pitches forward four or five inches, extending out a few inches beyond front of nests. The partitions are nailed to the top, but not to the floor or the back. A strip an inch or so high (not shown in sketch) is nailed along front of floor to keep eggs from rolling out. The beauty of this scheme is that you can lift off the top and partitions and sweep floors of nests all in one quick job.

CARL STACY.

Broom-Corn Stripper

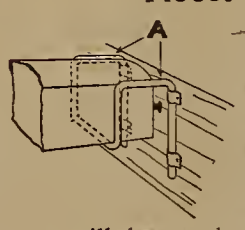


HERE are plans of a broom-corn stripper such as I built for my own use last summer. It proved very satisfactory, as it not only saved the cost of the ordinary large machines, but did the work much better and stripped the brush cleaner. With it one man can strip the broom-straws as fast as he can pull them from the stalk.

It is made of two pieces of wood fastened together at one end with a hinge. On one side are two plates (A) of steel fastened to the wood with four screws, and a stop-block is fastened on the other side of the lower piece to keep the top piece from giving when you pull the straws through. Nail the lower piece to a bench with the handle pointing to your left, as in the upper sketch, and pull the straws with the right hand.

FRANK A. WIRTH.

Roost Support



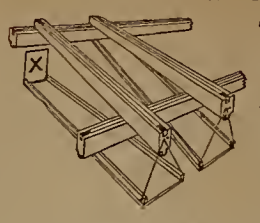
A SIMPLE roost support is shown. To make it you need a piece of stout galvanized wire, pieces of heavy galvanized iron for the wall supports and eight round-headed screws. The lengths of the different sides of the support will be regulated by the size of the roost, but the length of the top (A) should be two inches. The roost should come within one half inch of the wall, and a wire nail driven into the end as shown will prevent its moving endways. When you make a roost have the rounded top on which the fowls roost two inches wide, and the depth three inches. The roost should be frequently painted with liquid lice-killer or kerosene and coal-tar to kill lice or mites. A. E. V.

Notice to Contributors

FOR the three best articles in each issue of the Headwork Shop we give prizes of five dollars each, awarded by post-card vote of our readers, the voting to close two weeks after date of issue. All other contributions used are paid for at regular rates.

Headwork articles accepted for publication will be printed in the order in which they are received. Once in a while a contribution has to wait as much as two or three months for publication. It is not possible to send individual notices of acceptance to contributors, so this notification is printed, for the relief of mind of those whose contributions may have been thus held up. EDITOR.

Individual Dropping-Boards



THIS scheme does much toward keeping the hen-house clean and sanitary, with little work. There is a dropping-board under every roost, with a strip nailed along each side to make a raised edge. These boards can be hung so they slant down and back to a small door (X) in the back of the hen-house, which fits tight down on dropping-board when shut (see left-hand board in sketch). Or the boards can slant forward and be cleaned into a bucket. I prefer the latter sort. The cleaning is easily done with hoe or wooden scraper.

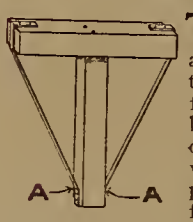
Another useful building trick we used in our hen-house was to make the roosts of wide tongued-and-grooved stuff, and the roost supports of the same material. The ends of the grooves were plugged, the roosts and their supports carefully leveled. We pour kerosene into the grooves, and it helps keep down lice and mites and prevents scaly-leg. J. F. B.

Kill Mites Like Moths

MITES and lice infest setting-hens, which mean death to chicks and very often to the hen. To prevent this we place some moth-balls in the nest and neither mites nor lice will trouble the chicks. This is by far the cheapest and best means we know of.

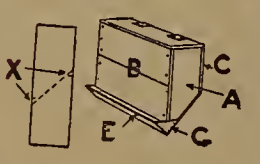
J. H. HAYNES.

A Strong Milk-Stool



TAKE a two-by-six fourteen inches long for the seat, and spike it to the top of a two-by-four piece about fourteen inches long. Then brace it by nailing a piece of strap iron about one inch wide to one end of the seat, passing it under the two-by-four upright, and finally nailing it to the other end of two-by-six. Then draw the strap iron in close to the upright at AA and fasten it there. Screws are better for this than nails. This is the best stool we have used. E. TRACHSEL.

Self-Feeding Hopper

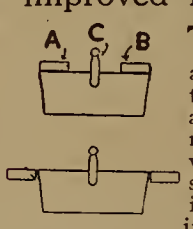


TAKE a board three feet long by twelve inches wide, measure off twelve inches from the end on one edge, twenty-four inches from that end on the other edge, as shown in the diagram at left. Saw diagonally across between these points, on the dotted line. Then saw off the little point (X) of each part of the board. This gives the two side pieces of the hopper (as A).

Nail on the front (B) and back (C) of the hopper—boards about three feet long do for this. The sloping part of the back should come down two inches below the bottom of the sides. Nail to the bottom of this sloping back piece a board four inches wide (E), thus making a shallow trough below the little slot at the bottom of the hopper. Nail on little triangular pieces (as G) at the ends of this trough.

Put on a hinged top and the hopper is done. Nail it up with the back against the wall. The space below may be used for a nest. The hopper can be divided by a cross partition if desired. C. O. SNYDER.

Improved Tool and Nail Box



THE drawings give an end view of this box. In addition to the space which the main body of the box affords, two extra compartments (A and B) are provided, to hold an extra supply of nails and staples in a position that does not interfere with contents of box proper. Compartments A and B are substantially hinged to sides of box and when in use are opened out as shown in lower sketch. They have lids to prevent their contents from spilling when folded over body of box as shown in upper sketch. C is the handle of box. CHAS. F. END.

Rockefeller Lice-Killer

HERE is a time-saver in the way of an automatic lice-killer. Make two oblong frames of any thin box material, its inside measurement being the same as the hole in the chicken-house leading into the run. Two of these frames are nailed together with a one and one-half thickness of old heavy cloths between, fringing out in the center hole with a flat square piece like a lamp-wick sticking up out of the top.

Soak the whole thing, frame and all, in kerosene and nail it directly over hole leading from house to run. A large tomato-can is flattened a little on one side and hung on a nail with that side against the wall. With chisel punch a long narrow hole in bottom of can for your cloth wick in top of frame to go through, wick fitting tight in slot. Fill can with kerosene and it will filter all through cloth in frame, and as hens squeeze through they receive a very little all over their body which will keep away the lice.

CHARLES C. TALMAGE.

Headwork Winners December 25

Sarah Black	"Skims Off the Weeds"
S. H. W.	"Bit-Box"
E. Stokes Sayre	"Anti-Sag Gate"

Farm Notes

East Versus West

From the Hired Man's Viewpoint

I HAVE worked in many states; on fruit and dairy farms in the East, corn farms in the Mississippi Valley, irrigated farms in Colorado, and in the harvests of the Great Plains. Therefore, I am fairly well qualified by experience to judge the various sections from a hired man's viewpoint. In this I shall speak more with reference to the Eastern and Central sections. The far West is an entirely different proposition.

Labor conditions vary in the different sections, but wages are much the same everywhere.

A boy who wants work in the East can usually get it, but there is not always much choice of jobs. This is not the case in the Middle West. Real work is easy to get, although soft snaps, contrary to many reports, are rare. Everyone is willing to help a man get a job, and if not satisfied with the first, he can easily change. Any store-keeper, barber or banker will gladly introduce him to a farmer who needs a man. This farmer will meet him cordially, shake his hand and, if they agree, take him home, talking agreeably and showing respect for his opinions—if he has any. And let me say here that the ability of a man to talk intelligently appeals strongly to most Western farmers.

Arrived at home the farmer will introduce the man to his family, invariably ask him if he is hungry and treat him well.

A Job, Not a "Situation"

This may make the Easterner believe that he is indispensable. Before he leaves home he is usually told that the Westerners cannot get enough help and that the men may do as they please and still be retained. Consequently some don't do good work and are "fired." Most Western farmers are willing to use patience with an earnest man who doesn't understand his work or who is not strong enough for it, but they would rather lose a crop than keep a man who does not at least try to earn his money. If a man works hard for the boss' interest he will be well used and favors will be given him.

The Eastern boy hears much about the high wages paid in the West. In this he is sure to be disappointed. It takes an extra good man anywhere east of the Rockies to command thirty-five dollars per month (board included) and two dollars per day (rarely two dollars and fifty cents) and board is the standard harvest wages from Maine to Montana. Experts command top prices in their lines, but nowhere have I found common labor paid from three to six dollars per day, as I was told would be the case in the harvests.

Then, with conditions as they are, does the Eastern boy gain by going West? Judging by the number who fail, one might well say that he does not. But I believe that the boy who goes, sticks to his job and keeps his eyes open will come out ahead, although his profits cannot always be reckoned in dollars and cents.

Fair Comforts, Valuable Experience

Western farmers can give their men advantages that are impossible to most Easterners. Many Eastern farms are devoted to dairying and as a rule the men work a full day in the field besides chores. On most corn-farms there are few chores except the care of the horses. The Western farmer works a ten-hour day, usually from 6:30 to 11:30 A. M. and from 1:00 to 6:00 P. M., thus allowing an hour and a half for nooning. No work is done after supper. A man has his evenings to himself and is not too tired to enjoy them in a quiet way.

The Western hired man has Saturday afternoon off, but a man in any locality should have this in the bargain when he hires out. He can spend the time pressing his clothes, writing letters and doing numerous other things that are usually left for Sunday.

There is only one team on the average Eastern farm, and the boss uses it. The hired man has other work, usually hard, puttering jobs. In the West every man works a team, and a reliable man is given the use of a driving rig.

In addition there are the great advantages of travel and contact with strangers. No matter what a boy does in later life, a year spent working on a Western farm will be of untold value to him. He cannot help but absorb some of the Western enthusiasm and energy, and he will learn how to deal with farmers—a valuable asset that is lacking in many men's business education.

But the West hides disadvantages to counteract these favorable conditions. The worst of these is homesickness, the "Heimweh" of the Teutons. It is said that when Swiss soldiers—counted among the bravest in the world—hear their national air played, they become so homesick that they desert in great numbers. What awakens this feeling in the American youth I know not, but I have talked with many Eastern boys in the West who were starting home, and nine tenths of them were leaving because they were homesick. They were good, husky fellows, too, who were probably leaders at home. A boy starting West jokes about homesickness, but he soon finds it to be a reality. From personal observation I believe that one boy out of every three who go West starts for home within a month, if he has the money or can get it.

Another disadvantage of the prairie states is the excessive heat which prevails during the harvest season. I have seen powerful men, not used to the conditions, play out because of this and the change of water, which bothers most Easterners. In most cases the bad effects wear off soon.

A third disadvantage, sometimes met, but easily avoided, is to stop in a locality populated by foreigners who have not learned American ways. A man will find it to his

The Writer Running the Two-Row Cultivator, on Farm Near Beloit, Wis.

advantage to leave such a place at once. Even if he gets work his life will be very unpleasant.

Thus far I have touched mostly upon the life of the man working by the month. The day laborer who follows the harvests, perhaps from Texas to Winnipeg, finds conditions very different. No boy should try this unless he is in fine physical and moral condition. He will find every disadvantage in the shape of hard work, oppressive heat, filth and unpleasant companions. Unless he is careful and uses good judgment, he will have less money at the end of the season than at first. Most harvest hands have been in the business for years, beating their way from job to job, and spending their wages for booze. They do the work from force of habit and because it nets them money fast. Unless a boy is very strong morally he will become like them for the sake of companionship. If a boy does want to try the harvests, he should take another fellow with him and they should stick together in everything.

The average boy who works by the month for thirty dollars will save more than the one who follows the harvests, besides not suffering the discomforts.

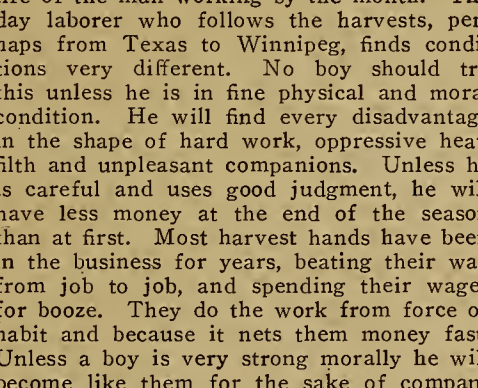
Judging by experience, I believe it will pay any Eastern boy to go West, for a year at least. But let him try the great corn states first. Then if he wants to go farther, let him. He will know more about what he is going into. His experience in the Middle Country will be invaluable to him anywhere, and he will remember the year spent there as one of the pleasantest of his life.

ALFRED T. MORISON.

Practical Home-Made Ice-Plow

THE old way of cutting ice was to take the same old cross-cut saw that did yearly duty at the wood-pile and laboriously saw out each cake. Many farmers still cut their small supply in this way, although the saw is too fine for such work, and cuts very slowly. An ice-plow as usually bought costs too much, but one can be made. This is what we did several years ago.

We cut two pieces of hard-wood plank about six feet long by ten inches wide and two inches thick. In these grooves were cut, slanting slightly as shown in the illustration to receive four cutters, which the blacksmith made out of teeth from an old spring-tooth harrow. He straightened these and sharpened them in the shape shown in



the cut, spreading the points a little to make them "clear" in the channel. The grooves in the plank should be less than half the thickness of the tooth so that they will bind and hold the teeth firmly when they are bolted together. We placed the teeth in the grooves and bolted the sides together with five bolts. The handles, braces and clevis for the end we got from an old plow. The blacksmith made the guide which was fastened to two eye-bolts in the beam so that it could be reversed. The teeth were regulated in depth of cut by driving them after loosening the bolts, as an old-fashioned plane-bit is set.

D. V. HOPE.

When to Use the Subsoil Plow

IF ANY ONE advises you to subsoil in the spring for seeding with either one of the usual spring crops, don't act upon it.

I had a ten-acre field of clay upland that invariably produced from seventy to eighty bushels of shelled corn to the acre. This field was planted to corn and the disadvantage of subsoiling in the spring was distinctly shown.

One half of this field was plowed to the usual depth of eight inches, and a subsoil plow drawn by another team deepened up the hard subsoil to the depth of eight inches more, making fourteen inches in all.

The entire field was thoroughly harrowed and planted to corn and well cultivated during the summer. The subsoiled part of the field produced but half a crop of small ears and nubbins, while the unsubsoiled half of the field produced a full yield of not less than seventy-five bushels of corn to the acre.

Practical farmers who read this account may think that this was an exceptional case, or that a lack of rain after the corn was planted may have been the cause of such a poor yield. However, if that was the cause of the failure, it is now a well-established fact that after land has been subsoiled as it should be, in the fall of the year, the winter rains which enter the soil tend to fine the coarse particles of the upraised subsoil so that they will settle together and restore the desired degree of fineness which makes its capillarity—the condition which enables water to rise in the soil—as complete as that of the surface soil.

Such a condition is in every way desirable. The land, after being subsoiled in the fall, becomes a needed reservoir of moisture so that by the following spring the capillarity of the subsoil is made nearly equal to that of the fine surface soil. The result is that the moisture held in the subsoil will, after the cultivation of the corn is begun, ascend by degrees and make available the plant-food for assimilation by the rootlets of the growing corn-plants. Such preparation for the crop as suggested, if supplemented by frequent cultivation of the surface soil, forms a mulch which tends to prevent the loss of moisture by evaporation from the soil, promoting a vigorous growth of the corn-plants.

There is no doubt that the very best results will follow the practice of subsoiling in the fall all heavy clay soils south of the forty-fifth degree of latitude.

WM. M. KING.

Bee Hints for Spring

ARE you sure your bees have plenty of honey to last until fruit bloom? If not, you had better start to feed as soon as the weather is not too cold. Make syrup, of granulated sugar two parts, water one part. Mix, stir until well dissolved and warm. But do not let it come to a boil. Feed it while warm. If your hives are of the regular standard pattern, put the syrup on top of the frames in shallow dishes—pie-plates, for instance—with a piece of cheese-cloth over the syrup. This prevents the bees from drowning while they can get the syrup as it soaks into the cheese-cloth. There are regular feeders on the market that work very well.

In the cold months be careful to keep the entrance to the hive open, as it oftentimes gets clogged with dead bees or perhaps with snow and ice.

Moving-Day in Beeville

If your bees are in old box hives, you may want to transfer them to standard hives. This may be done when fruit is in full bloom. Here is the way we transfer bees—it is the newest and handiest method: Move the old hive back six or eight feet and set the new hive in the old hive's place. Then get a small box, a foot or so deep and just the area of the bottom of the old hive so that the box and hive can be fitted together closely with the edges meeting all around. Turn the old box hive upside down, set the hiving-box over it and drum against the hive with your hand or a stick until about two thirds of the bees are driven into the hiving-box. Then gently lift off the box and dump out the bees in front of the new hive, which, of course, should have a sheet of brood foundation in each frame to insure the starting of straight combs.

Be sure that the queen is with the bees thus moved to the new hive. This is essential.

Turn the old hive right end up and allow it to stand at least twenty-one days, by which time the brood will all be hatched. Then drum all the remaining bees out into the hiving-box and dump them at entrance of new hive as before.

At all these movings, the bees should be smoked to prevent their fighting.

The old way to transfer was to pry one side off the old hive and cut out the straight combs, leaving the crooked and drone combs. The straight ones are then fitted into the frames of the new hive, tying them there with waxed strings.

J. A. KREIGHBAUM.

A California subscriber writes: "Here is something I want everybody to know: Essence of peppermint will stop the pain of a burn or scald instantaneously. It is also good for chilblains. Try it."

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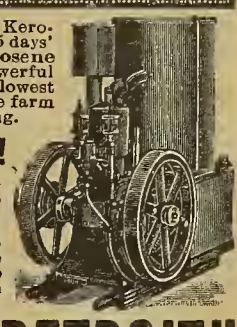

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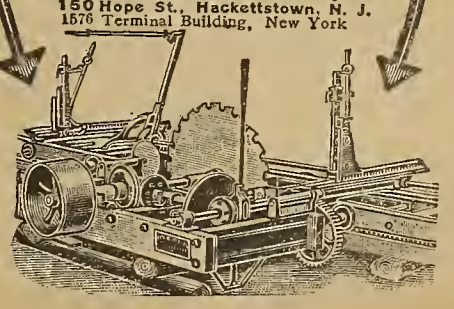

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ONION, Prizetaker, weight 3 lbs., 1000 bus. per acre.
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This Collection is enclosed in a coupon envelope, which when emptied and returned will be accepted as 25c cash payment on any order of one dollar or over.

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GARDENING
By T. Greiner

Why Not Floats?

Floats is finely ground raw phosphate rock, and useful in a way, possibly the cheapest source of phosphoric acid for soils abundantly supplied with humus, and perhaps a little on an acid order, or to mix with stable manure for the purpose of fixing ammonia, and getting the phosphoric acid gradually into shape for the use of plants. A good share of the floats is mined in Tennessee, and it is not readily obtainable here in the small quantities I would need. If my operations were extensive enough that I could buy in car-load lots, I certainly would use it. Under my present conditions, the use of floats is almost out of the question, and I have to depend on acid phosphate (dissolved rock). But even in small operations I don't see my way clear to do without this form of superphosphate, both as a direct application to the soil and as an admixture to fresh stable manure, and even as absorbent and ammonia fixer in stables and poultry-houses.

Potato Varieties

I have a number of requests to name the best three early, best three medium and best three late potatoes. So many new sorts have recently been introduced, and so many changes made in the selection of market varieties in the various potato districts, and varieties seem to differ so much in their adaptability to different sections or soils, that we may well ask: "Where are we at?" I will try to ascertain what are the three sorts of each group grown most largely and favored most by the potato specialists in various parts of the country, but in the meantime I would like to have the potato-growers of the Farm and Fireside family send in the lists of potatoes they prefer for their locality.

As a gardener I raise mostly early sorts. I must have the Early Ohio as the earliest, about the best of keepers, and of excellent quality. Irish Cobbler is my next choice, a very early sort, being of good quality, a fairly good producer and of white color, for those who prefer white to red. For my third choice I don't know that I could name anything better than Hebron, the Beauty of Hebron, which is older even than the Early Ohio, and this I have grown since 1870 or 1871, or just about forty years.

Growers elsewhere may prefer Early Six Weeks or Norston Beauty (Quick Lunch) or others that might be named.

Way to Open Potato-Pits

A great many farmers and truckers bury their potatoes in a hole or "pit" over winter to keep them. Everyone knows what a job it is to throw the necessarily thick covering of dirt off a potato-pit. Here is an easier way to tear the pit down in spring when potatoes are ready to market.

For three years we have used what is called a ditching scraper, or "banker" for this work. Hitch one horse or, better yet, a team to the scraper, put about twenty feet of chain onto it (depending on size of pit). Pull scraper to top just a little past the peak of pit and start the team. You will be surprised and pleased at the results. One man can do this work if the horses have been taught to mind at the word, and as much earth can be moved at one trip as can be thrown down in twenty-five shovelfuls.

R. E. Rogers.

Do You Like Leeks?

For those who do not like the strong flavor which characterizes the onion, the leek offers a boon. It is an old vegetable, dating probably from the time of the Egyptians. It is of the same family as the onion and is a biennial. The flavor of the onion is retained, but in a mild and delicate way in the leek. The shape is very different, there being no rounded bulb as in the onion. The lower part of the plant is the edible portion, which can be increased in size by drawing earth up around it.

Select rich soil and sow the seed early in April in the North, in drills one foot apart and one inch deep. Do not sow too thickly.

When the plants are about six inches in height, and the thickness of a pencil, transplant to their permanent homes, which should be in rows a foot apart in deep rich soil. Put the transplanted leeks in these rows, at a distance of six inches apart, with the necks of the plants covered with earth. The soil should be drawn up around the neck as the leek grows, in order to blanch it.

About October the plants can be used. They are used chiefly in soups or can be boiled like asparagus. Leeks cannot be kept in a dry state like the onion, but must be put in trenches like celery if one wishes to preserve them. Howell P. French.

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When Coffee is Doing Harm.

A lady writes from the land of cotton of the results of a four years' use of the food beverage—hot Postum.

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"I know it was that, because when I would leave it off for a few days I would feel better. But it was hard to give it up, even though I realized how harmful it was to me.

"At last I found a perfectly easy way to make the change. Four years ago I abandoned the coffee habit and began to drink Postum, and I also influenced the rest of the family to do the same. Even the children are allowed to drink it freely as they do water. And it has done us all great good.

"I no longer suffer from indigestion, and my nerves are in admirable tone since I began to use Postum. We never use the old coffee any more.

"We appreciate Postum as a delightful and healthful beverage, which not only invigorates but supplies the best of nourishment as well." Name given by Postum Co., Battle Creek, Mich.

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equals it, and the information showing how to grow for profit will be mailed **absolutely free** to any one asking for it. Our president has devoted over fifty years to the study of potato culture and the manufacture of machinery for handling the crop in all stages.

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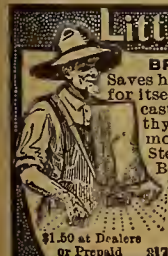

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Fruit-Growing

Pull Together

A Selling Lesson for All Orchardists

FRUIT-GROWING in the Pacific Northwest has made such gigantic strides during recent years that many Eastern growers are beginning to look into the situation in order to determine the cause of this amazing development. Their investigations show that business methods and organization are the direct causes. The highly developed orchards, their excellent management, high quality of fruit, pack, price, all signify this fact.

The success of the orchardists in the Northwest has acted as a stimulus, for in almost every fruit section in the United States men in all walks of life are being attracted to this lucrative business. Since the industry is attracting such a cosmopolitan class of growers it is of paramount importance that they understand the fruit markets and their requirements.

It is quite easy for many orchardists to grow fruit, where scientific methods of orchard practice and management prevail, but to sell it to the best advantage is another proposition. The individual grower, unless engaged in the business on a tremendous scale, is at a great disadvantage. Unless he can grow fruit in car-load lots there is little chance for his success, for he will have many difficult problems to overcome, such as excessive freight rates, competition, etc., as well as the handicap of his own probable lack of business experience and lack of reputation among buyers. In fact, he will be at the mercy of the commission man.

Courtesy of Horticulture Dept., University of Idaho.

A Western Packing and Shipping House—Moscow, Idaho

Coöperation the Secret of Success

The solution to the problem is simple enough: The formation of coöperative unions or associations. Coöperation is no new thing to the people in the United States, for we have it from good authority that the pioneers in the settling of this country found it to their advantage to band together. It is especially essential to coöperate in certain lines of work, and fruit-selling is one of them. Growers, in most of the highly developed fruit sections of the Northwest, have realized the necessity of coöperating in order to compete with the world at large.

Since, then, the success of the small grower depends largely upon organization, it will be instructive to study what the Hood River Valley Association of Oregon has achieved during its brief existence, and how this has been accomplished, for this organization is both successful and typical.

The growers in the valley in 1902, realized, as individuals, only eighty-five cents per box from the sale of their Spitzenburgs. In 1903 the Hood River Apple-Growers' Union was organized, and as a result succeeded in marketing the fruit for two dollars per box. Nor did they stop at that; the good work went on, for, in 1904, $2.10 per box was realized, and, in 1905, $2.60 per box. From 1905, on until the present time, tremendous profits have been realized.

Now their fruit is known the world over, having obtained recently a very strong hold in the European markets. The grower has reached the era of scientific management and development of his orchard, can produce fruit of the highest type and order, and through the union receives remunerative prices for his product.

Good Management Half the Battle

Several factors were brought to bear in the working out of this problem. The valley has won the distinction of being able to produce an article of quality, and the growers have had some organizers as managers of their union. These men were thorough orchardists, understood how to put up fruit in fancy boxes for long shipments, were posted on all market conditions and were familiar with practically every fruit market in the United States.

Here is an axiom for coöperating orchardists, truckers and farmers: The success of any organization depends largely upon its manager, who must be a man of recognized ability, and one who is honest and fearless in his dealings with his fellow-men. Such a man must, of course, be well paid.

Concerted effort on the part of the members of the Hood River Apple-Growers' Union has brought about specialism in the valley to-day. The growers realized that to achieve the greatest financial success they must have a specialty. Let us see if they have accomplished their aim. At the present time, only two varieties of apples, the Spitzenburg and Yellow Newtown, are produced in quantity, and only one variety of strawberries—the Hood River. Undoubtedly success has crowned the efforts of these men.

How the Union Gets Results

The union has been very fortunate in having some ninety agricultural college men join its ranks. These men are, in practical work, applying the scientific principles of fruit-growing they acquired during their college career. Here we find them, all striving for the same end—the production of the large red apple and the upbuilding of their community.

The union has been instrumental in holding biennial fruit fairs. These have been notable events, for their exhibits have attracted world-wide attention and have stimulated rivalry and interest among the growers themselves. They have also been instrumental in drawing buyers to the valley, who buy the fruit, ship it East and exhibit it for two or three days in some of the large cities. This is one of their principal means of advertising.

The rules and by-laws of this association are very exacting in their requirements, and it has only been by rigid enforcement of these that such splendid results have been accomplished. The union requires all of its fruit to be packed by expert packers, no individual grower, who is a member of the association, being allowed to pack his own fruit. The enforcement of this rule has resulted in putting up a package that is absolutely uniform in every respect. All apples are wrapped in paper, bearing an

[CONCLUDED ON PAGE 10]

SEEDS

If you love Flowers write me a letter (not postal) for **Park's Floral Guide**, teeming with floral notes, pronouncing the big flower names, giving a germination table, showing nearly 1000 flower pictures. It's different. It insures success. Be sure to see it. **Best seeds at lowest prices.** 42d yr.

5 Fine Gloxinias, 5 colors,	25c
7 Double Begonias, 7 "	25c
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10 Pkts. Choice Flower Seeds, 10 cts.

Aster, Q. of Market, Mxd.	Pinks, New Japan, Mxd.
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Phlox Drummondi, new "	Mixed Seeds, 1000 kinds.

10 Pkts. Choice Vegetables, 10 cts.

Beet, Imp. Early Turnip.	Onion, Danvers Yellow.
Cabbage, Early Solid Cone	Parsnip, Large Guernsey.
Cabbage, Late Flat Dutch	Radish, Special Mixture
Cucumber, White Spine.	Tomato, New Matchless.
Lettuce, Malta Drumhead	Turnip, Purple-top Globe

Send 10c for either lot, or 20c for both. Or, send 60c for club of three (60 pkts.) and I'll add four 2-oz. pkts. (worth 40c) Best Sweet Corn, Beans, Peas and Squash, also, trial subscription to **Park's Floral Magazine**, which cheers and brightens more than **600,000 homes every month.** Six lots (124 pkts.), $1.00. Club with friends.

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are favorably known throughout the world. Twenty-five of the best sorts were introduced by us. We grow more high-grade tomato seed than any other seedsman in the world.

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Globe, Hummer and Coreless are nearly perfect. Packet of Globe 10cts; Hummer 10cts; Coreless 15cts; the three sorts, one packet of each for 25cts.

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We grow acres of Onion seeds on our farms annually.

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All Northern grown, guaranteed to be 99 percent pure and free from dodder. Write for free sample on which we invite you to get Government tests. This seed should produce hay at $60 per acre annually. Free instructions on growing.

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Boys want encouragement—If they don't get it at home they go elsewhere. Teach them to earn their own spending money. Growing vegetables is instructive, interesting, profitable when

IRON AGE Farm and Garden Tools

are used. Our No. 6 Combined Hill and Drill Seeder with Marker and Double and Single Wheel Hoe is a wonderful tool—can be used in various unusual combinations. Saves time, labor and seed. Price, $12. Other garden tools, $2.50 up. Easy to operate. Recommended by gardeners everywhere. Write to-day for 75th Anniversary Catalog—Free.

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75 YEARS IN BUSINESS

Garden and Orchard

What 1910 Taught One Gardener

IN REVIEWING each season's work, there are many experiences that stand out as worth remembering. No matter how many years we run a garden, we are always learning new methods that will put new profits in our pockets thereafter.

The most distinct advances we have made in the handling of any crops we grow have been with our Earliana tomatoes and with raspberries. For years we have successfully grown Earlianas and made good money from them, as we have always taken pains to have a highly manured piece of ground for this. But it has always been too late, when the tomatoes were removed, to get anything more from the ground. We disliked to see such valuable ground lying idle. Last year we marked the ground three by three feet, and in each alternate, or six-foot, space, we planted Cumberland and Cardinal raspberry tips. As the season was far advanced, we used plants that had already made considerable growth, setting them with a chunk of adhering dirt. In the intervening spaces we set the Earliana tomato plants.

From a trifle over half an acre set in this way, we sold over two hundred dollars' worth of Earlianas and they were out of the way in time to layer the raspberry tips. The raspberries made an immense growth, as the ground was well worked and kept clean of weeds, to make the most of the tomatoes. We now have a profitable crop of plants to dig from this ground early in the spring, and prospects for a bountiful crop of berries a few months later, whereas we usually planted and cared for the raspberries the first season without getting any returns from the ground, and hardly knew what to do next with the ground, when the tomatoes were off, unless to sow it for rye, and get it back to clover.

Too Much Richness

We got a new pointer in strawberry-growing out of the year's experience, too. After a continued battle with the weeds in one of our strawberry-patches well up to fruiting-time, we decided never again to plant these in the rich old garden-spots, where weeds have gone to seed for years and potash has been applied for the early cabbage crop at the rate of eight hundred pounds to the acre, besides heavy applications of barn-yard manure. On such enriched garden soils weeds grow with wonderful rapidity, and the results in berries from a patch planted on ordinary farming soils with an ordinary application of manure gave fully as large a yield of berries, with no difficulty in keeping the weeds in control.

For some time we have made a practice of saving a quantity of the smaller seed-potatoes for late planting, spreading them out on a floor so they get short, stocky sprouts. We often plant these on ground that would otherwise be vacant, late in the season, and with liberal applications of fertilizer when planting we usually get a good crop. We planted a quantity as late as July 20th last year, and in spite of the drought that prevailed in this section of Ohio we had fully as good a crop as from the earlier planting and there were no bugs or weeds to contend with, so the item of labor was little more than planting and harvesting.

We never found much use for Hodson Wax Bush Beans, as in midsummer they get stringy and tough before full grown. But lately we have gotten in the way of planting them about August 1st to the 15th, bringing the crop well into September and up to early October. Coming late in this way they are remarkably tender and beautiful, sell well and produce a profusion of beans such as no other variety approaches. C. WECKESSER.

Pull Together

[CONTINUED FROM PAGE 9]

attractive monogram and the name of the association, and are then placed in standard or special boxes.

To meet the needs of the small grower the union has been instrumental in having built a shipping-house in the heart of the east side district, where all the fruit from this section is received and packed, or if previously packed, inspected. Such an establishment should be located where the largest number of growers can make economical use of it. It should also possess all the necessary facilities for handling produce and have one or more methods of transportation.

When the fruit is packed in the orchard the same rigid rules must be observed as in the association's shipping-house. The fruit must be taken to the packing-house, sorted and then packed by expert packers, who have been sent out under the auspices of the association.

To the small grower the union is a necessity, because it enables him to combine his fruit with that of other growers to make up car-lots. The union can do business on a wholesale basis, while the individual can do only a small retail business or ship his fruit on consignment. Buyers prefer to deal through unions and are willing to pay better prices because they are sure of a uniform pack and because they feel that the association will do business on straight business principles.

While the advantages of a coöperative union are very obvious and it may be superfluous to mention them, yet it might be very well to enumerate a few, to show the results that can be accomplished by a union, but which the individual cannot hope to accomplish.

First: The union is in a position to receive daily quotations from all the markets of the world.

Second: It has the power to change the destination of a car en route, in case of a glutted market.

Third: It can handle the problems of shipping and storage more cheaply than an individual.

Fourth: Icing of cars can be given personal attention by the union's representatives.

Fifth: The union saves thousands of dollars for its members by buying spray material, paper, boxes, etc., in car-load lots.

Sixth: It can do extensive advertising.

All these things an association can do with comparatively little cost to its members, while to an individual this outlay would be impossible.

How to Organize Your Own Neighborhood

Since associations have played such a very large part in the development of the fruit industry in the Pacific Northwest, it would be well for other fruit-growing sections in the United States to emulate their work.

The formation of an association is quite simple. Those interested should notify all orchardists in the locality that a meeting for this purpose will be held at a specified time. At the appointed time a temporary chairman is selected, who states the object of the meeting. The meeting should now be thrown open for a general discussion.

Before the meeting adjourns a committee is appointed to draw up a constitution and by-laws. To aid beginners in this work it would be well to write several of the more successful organizations in the West for their constitutions. By comparing these, a stronger and more satisfactory constitution can be worked out. A few of the leading associations in the West are located as follows:

Medford Fruit-Growers' Union, Medford, Oregon.

Hood River Apple-Growers' Union, Hood River, Oregon.

Yakima County Horticultural Union, North Yakima, Washington.

Wenatchee Fruit-Growers' Union, Wenatchee, Washington.

Southern Idaho Fruit-Shippers' Association, Boise, Idaho.

Payette Valley Apple-Growers' Union, Payette, Idaho.

Bitter Root Fruit-Growers' Association, Hamilton, Montana.

Palisade Fruit-Growers' Association, Palisade, Colorado.

Grand Junction Fruit-Growers' Association, Grand Junction, Colorado.

Chop every old, useless and dying tree out of the orchard, keeping a memorandum of the number of trees thus removed, and putting in an early order for others.

A Missouri correspondent points out that: "Wood-ashes are good fertilizer for grapevines. They will supply the necessary potash for them, and if the same amount of poultry-droppings is added to the ashes, the undesirable, rank growth that too much ashes sometimes causes will be kept down."

Better Seeds Lower Prices

If we did not know we had something better to offer you in seeds, at *lower prices*, we would not be so anxious for you to have our catalog. No better seeds can be had.—We offer them to you direct at wholesale prices.

Cabbage Seed—We supply seed to the largest growers and storers of cabbage in the United States—pure seed—the kind that produces cabbage, sure to head up even and hard, and stand up and stay green in storage until spring.

Cauliflower Seed—is Danish grown, from selected heads, screened so you get only large plump seed. We will forfeit $500 for better, truer seed than we furnish at moderate prices.

Onion Seed—There is no cleaner, truer seed to be had. Get our special prices before buying.

Cucumber Seed—Is all grown in New York State. As white as chalk—no seedsman puts out better pedigreed stock at any price.

Peas—We grow our own stock, hand-picked and cleaned. Peas second to none.

Beans—We grow here, hand-picked, screened, and graded. New York State beans excel the world.

Sweet Corn—Ask the gardener or the canner if he would plant western grown sweet corn? Ours is all eastern grown. Field corn on approval.

Forrest's Honest Seeds are second to none—and at about one-half the usual price. Catalog free to all—drop us a postal.

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produces more cider from less apples than any other and is a **BIG MONEY MAKER.** Sizes 10 to 400 barrels daily. Also cider evaporators, apple-butter cookers, vinegar generators, etc.

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850,000 GRAPEVINES

69 Varieties. Also Small Fruits, Trees, etc. Best Rooted Stock, Genuine, cheap, 2 sample vines mailed for 10c. Descriptive price-list free. LEWIS ROESCH & SON, Box E, Fredonia, N. Y.

ST. REGIS EVERBEARING RASPBERRY

Bears the first season! The most productive raspberry—planted in April, bears continuously from June to October of same year. The first to ripen and the last. Berries large, of bright red color and excellent quality — ship 200 miles in first-class order. Absolutely hardy & sun-proof.

Our new catalog Free—tells how to choose and grow small fruits "that produce profits."

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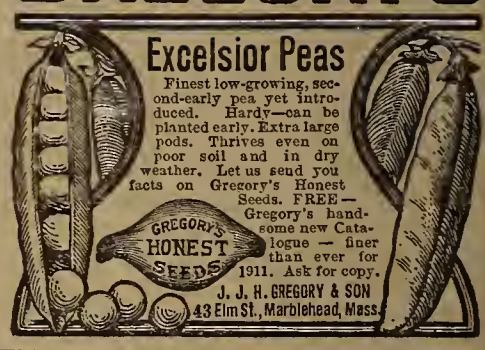

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Finest low-growing, second-early pea yet introduced. Hardy—can be planted early. Extra large pods. Thrives even on poor soil and in dry weather. Let us send you facts on Gregory's Honest Seeds. FREE—Gregory's handsome new Catalogue — finer than ever for 1911. Ask for copy.

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43 Elm St., Marblehead, Mass.

Potato Culture

Potatoes are unquestionably one of the most profitable crops the farmer can grow and he should investigate the matter, do a little experimenting and see whether or not his land is adapted to raising them. With present day methods and machinery the labor of planting and harvesting has been greatly reduced. Chief among potato planters is the Evans, manufactured by The American Seeding-Machine Co., Incorporated, Springfield, Ohio. This machine opens the furrow, plants and covers the seed in the best possible manner—far more accurately than can be done by hand. It has adjustable pickers that will handle all sized seed. Where artificial fertilizers are to be used, an accurate fertilizer attachment can be furnished, which is guaranteed to sow any and all brands. The Evans Potato Planter will pay for itself in a single season where the acreage is sufficient. One man or boy can operate the Evans under all conditions of seeding. It is light draft, simple and strong. Send to the manufacturers for a copy of their Evans Potato Planter catalogue. If you want special information they will be pleased to answer your questions. After you have read this catalogue, go to your implement dealer and insist on seeing the Evans—the machine that must and will do all the manufacturers claim. Take no substitute. Get the Evans—the machine that "makes good."

Pratt-Elkhart "40"

is the quietest, simplest and most powerful car in the "40" class. They are in use today in over half the States in the Union.

BACKED BY THIRTY-EIGHT YEARS' SUCCESSFUL MANUFACTURING EXPERIENCE

Made in four classy designs; 117-inch wheel base, Unit power plant, three-point suspension, offset crank shaft, Bosch Magneto, 34x4-inch tires. List Price—$1800.00. Top and wind shield extra.

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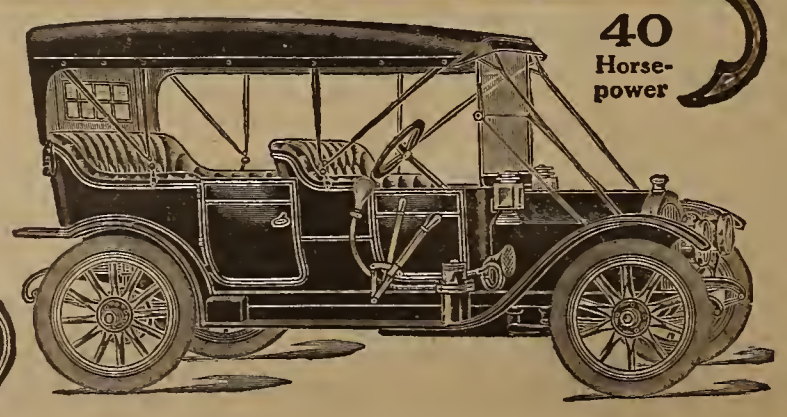


40 Horse-power

Garden and Orchard

How to Make a Nailing-Press

MR. C. C. VINCENT has pointed out to us that the sketch of nailing-press, which we supplied in illustration of his article on apple-packing (December 25th issue, Page 8) did not represent the approved type of press used in the Northwest.

The description and sketch given herewith will show the construction of that type. Such presses can be made at home by any handy man at a cost under five dollars.

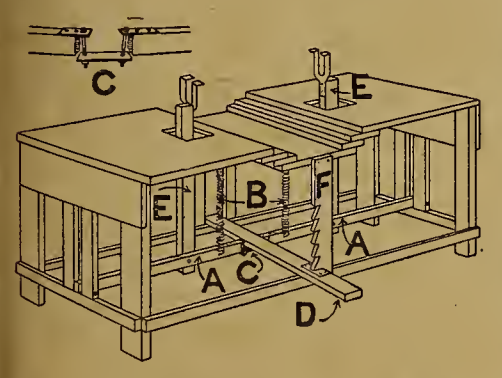
The body of the press is made like an ordinary table, except that there is a depression across the middle, over which the box of apples rests. The form of depression shown in the sketch, which goes down by "steps," is both strong and handy.

Two stout arms (AA) are pivoted to pairs of uprights at each end of table. These arms are hung on bolts so as to swing up and down. When no pressure is on them they are held up by the strong spiral springs (BB). The two arms are joined at their inner ends by the connection (C) shown, enlarged, at top of sketch. The bolts of this connection fit loosely in their holes so as to have considerable play.

A strong foot-lever (D) rests in this connection, so that when the foot-lever is depressed, the arms (AA) are also depressed. The foot-lever is pivoted to two uprights at back of table, and, when pressed down, it can be held there by catching it into the ratchet (F), the foot-lever having a piece of iron projecting from it so it will catch easily.

To the arms (AA) are bolted loosely the vertical pieces (EE), which project through the table-top and bear on their upper ends iron clutches of the right shape to hook over the ends of the box.

The box is packed, as described by Mr. Vincent in FARM AND FIRESIDE of January 10th, in such a way that there is a slight bulging of the apples at the middle of the box above the level of the apples at the ends. When the cover is laid on the full box, it is necessary to apply force to the ends of cover to bend them down onto the end pieces of the box. Hence the press. The clutches are hooked onto ends of cover and the foot-lever depressed, putting pressure onto the arms (AA) and a down pull onto the clutches at tops of EE. The foot-lever is then hooked into ratchet, leaving the box cover firmly held down onto ends of box for nailing.



The holes in table-top should be large enough to permit the upright pieces (EE) to drop away from the box readily when the pressure on foot-lever is released and the spiral springs bring the arms (AA) up again.

The dimensions of an ordinary nailing-press, as furnished by Mr. Vincent, are: Length of table, 5 feet 4 inches; width, 22 inches; height of legs, 2 feet 5 inches; length of foot-lever, 2 feet 3 inches; length of arms (AA), 2 feet 4 inches; length of E and E, 2 feet 4 inches.

A broad board—not shown in sketch, for simplicity—usually is nailed along front and back of table with top edge flush with top of table, which gives a neater appearance and greater rigidity.

How Mulching Helps Shrubs

WINTER is the time to mulch the trees and hedges about the farmstead. When cultivation is discontinued mulching should begin and be continued until the ground about them is so covered that a soil protection is not necessary. There is usually an abundance of waste material around the feeding-yards in the form of damaged straw and the like, to use for this purpose, and also there is usually spare time in the winter to do this work.

Many hedges and much shrubbery have been planted throughout the country during the past few years, and in the event of a dry summer these will suffer and possibly die out entirely, if not protected with mulches to save the soil moisture. It is quite likely that a sod will have formed after cultivation was discontinued, and the ground, as a result, will soon become dry in the event of droughty conditions. This very cause has ruined many very promising hedges and also many small fruits and vines.

Many people have very little knowledge of the large quantities of water that thrifty growing trees and bushes take from the soil during a hot, windy day in midsummer. It has been said, on good authority, that a large cottonwood will, in a single day, pump a barrel of water through its roots into the body of the tree and allow it to escape through the leaf surface. A large portion of this must be soil moisture which has been stored in the earth, but finds its way toward the surface very rapidly during hot weather. One of the great values of the mulch is that of retaining the supply in the soil near the surface, where the tiny feeding roots of the trees will drink it in with the plant-food it contains in solution.

If all the growing trees and shrubbery about the farmstead are mulched during the winter, they are much more likely to make a rapid growth during the summer regardless of weather conditions. R. B. RUSHING.

Nailing-Press and Packing-Table in a Western Packing-House

A Melon Lesson

WE LEARNED something in melon-growing last season. Muskmelons have always been a very profitable crop with us, especially when started in boxes or quart baskets under glass. But last season, as cold and wet weather continued up to June, our entire crop of plants started in boxes was lost by damping off about the time we usually set them out. We then hurriedly planted a lot of Emerald Gem seed, as this is the best early variety in our experience, right in the open ground, thinking it too late to start another crop of plants under glass. However, as we had a lot of room in the greenhouse about the middle of June, I had the little boys carry the boxes from the cold-frame, where our crop of plants had been lost, into the greenhouse and plant some Tip Top seed therein once more, thinking that we might by some favorable circumstance still get a few of these choice melons. I let the boys do this, not wishing to risk the loss of my own time, for, or course, it was dubious business starting melons under glass so late in the season.

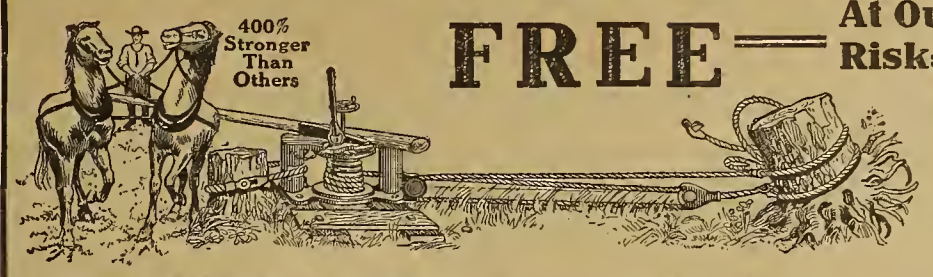
I looked forward with a good deal of confidence to a good crop of Emerald Gems in the patch outdoors, as these came up nicely. But the rains had packed the ground so hard, where we hurried to plant them, for fear of being too late, that, do what we would, they refused to make a decent growth during the ensuing dry weather and were a total failure. We scarcely got a dozen respectable melons from the entire patch.

While the Tip Top plants were growing in the greenhouse we replowed and nicely fitted the ground for these, and although we set them out on the fifth of July, they grew rapidly. The ground was loose and moist, in spite of the drought, and they matured nearly the entire crop of large, delicious melons.

This experience showed, I think, that best results depend not so much on how early planted, as on the best possible preparation of the soil to induce a rapid, vigorous growth.

C. E. WECKESSER.

Pull Your Stumps 30 Days FREE — At Our Risk



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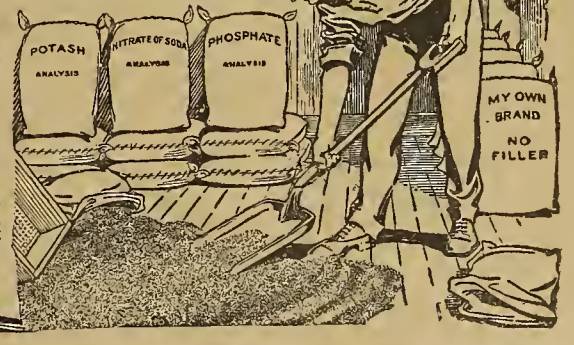

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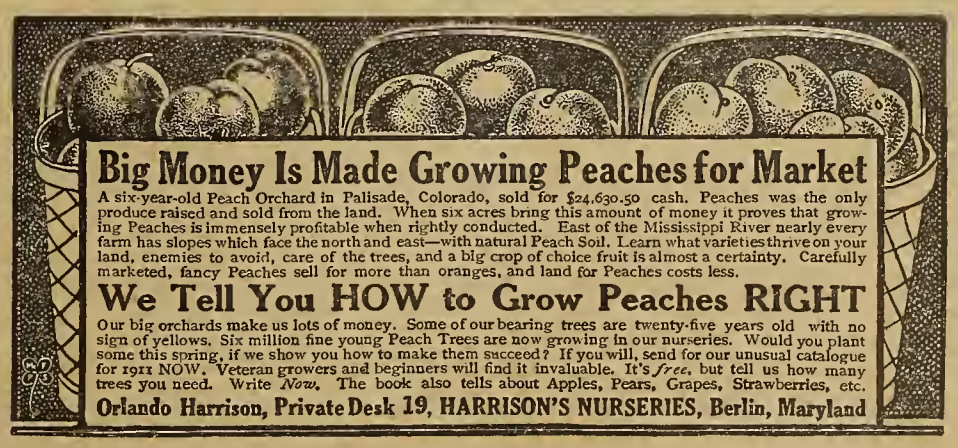

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Garden and Orchard

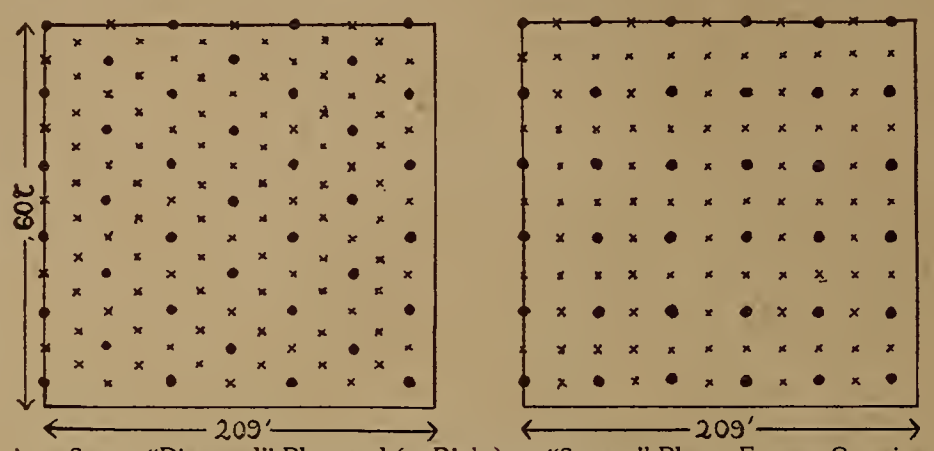
The New Apple-Orchard

GOING to set out a new apple-orchard this spring? Then begin to plan early, if you want to do it right.

Personally, I prefer the "diamond" system of planting. You can get as many trees on six acres as you can on seven when set on the square. One must allow twelve feet for all fences in order to leave room for working.

The matter of laying out the orchard calls for considerable thought on the part of the beginner. Having had the opportunity of setting out orchards here in Ulster County, New York, I may be able to give a few helpful pointers. I believe in setting the standards forty feet apart, for our conditions, and all fillers twenty feet, whether apples or peaches.

The first thing to do in starting an orchard on the "diamond" plan is to set stakes for the first row of standard trees. To get this, I start on one side of the field where there is a straight fence, or where one can get a straight row of trees. The straight line can be readily laid out by setting poles fifty or sixty feet apart and stretching a line between them. Make sure the line is straight by sighting with the eye. Then take a good tape-measure or forty-foot chain and set a small stake every forty feet where tree is to stand, along the stretched line. After this the large poles and line may be removed.

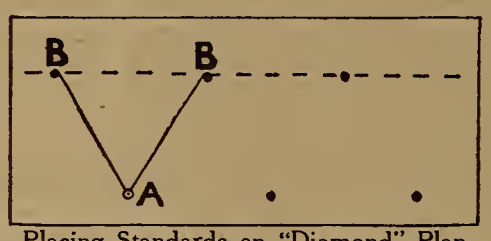


Acre Set on "Diamond" Plan, and (to Right) on "Square" Plan. Former Contains Three More Standards (Dots) and Thirteen More Fillers (Crosses)

Now take two strings forty feet long, put a hook on one end of each and fasten the other ends in a ring large enough for driving a small stake through. One man tends the hooks, which are placed, to start, on the first two stakes of the first standard row (BB in the sketch). When the cords are now stretched the center of the ring will lie where the first tree will come in the second row of standard trees. Put a stake there (at A in sketch). Then pass first hook over to the third stake, and you locate the second tree in your second standard row.

Keep this up all over the field. If the ground is not too hard or stony, shingles cut in narrow strips will do for stakes. Two men in this way can measure off and stake out a large field in a day. The standard trees should all be staked for and set first. Then go over the field the same way and stake for the fillers, using the standard trees for the hooks on the line. By using this method carefully there will be no need of sighting along the rows of trees while planting.

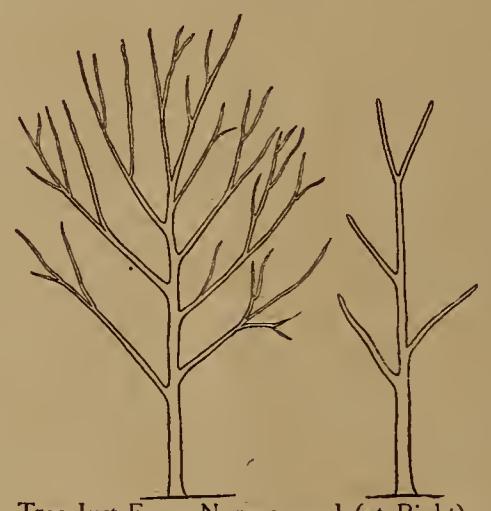
Taking it for granted you are going to put out quite a large orchard for the commercial market and do not want to wait ten or twelve years for the fruit in paying quantities, I suggest that, if you are a New Yorker, you plant nothing but red apples of the following varieties: For the standards, Delicious and Jonathan; for the fillers, Wealthy, Macintosh and Black Ben. These latter varieties grow rapidly and bear in a few years if properly pruned and headed. When they get in the way of the standard trees, which will be in ten or twelve years, they must be cut out at once.



Placing Standards on "Diamond" Plan

Your choice of variety, of course, depends on your locality. In general, plant what the region is already most noted for.

The digging of holes and planting should be done by hand. Make a circle around the stake with point of shovel the size the hole should be, which will be about two feet across. By using this method the right location for the hole will not be lost in digging, after you have removed the stake.



Tree Just From Nursery and (at Right) Same Tree Pruned

The hole should be about eighteen inches deep, which allows for throwing a couple of shovelfuls of top soil in bottom of holes for trees to stand upon. Where only a few trees are to be planted on sod or where the ground has not been subsoiled, it has been my experience that the holes ought to be at least four feet wide.

In planting the trees be careful about pruning the roots too much. Severely bruised roots are usually the only ones that should be cut off. The stock of tree should be made to stand in center of hole. Then cover the roots with good top soil. A little shaking of the tree up and down should be given, so as to make the loose soil settle about the small rootlets, upon which we depend for first growth. The hole can then be filled up and well packed with any soil. If the ground is very poor, a handful of bone-meal put around each tree and about two inches underground will prove a good starter.

Having started the tree, you now must direct its growth. The first limb should be three and one half or four feet from the ground, according to the best practice of this region. I like a five-branched tree, three branches on the sides and two on top. The top ones should branch apart in a sort of V-shape. But no two limbs should be directly opposite one another on trunk of tree. They should be four or five inches apart on the trunk. The reason for such an arrangement of branches is that the tree when old is much less liable to injury from heavy snows or winds if the branches leave the main stem at different heights than when they branch off at same height so that a double strain comes at one point.

The branches should be cut off just above the bud, with the bud on the outside. All inside buds that will grow a limb directly toward center of tree can be brushed off and save the sap that would go into them for the rest of the tree. Also, we save on the next year's pruning.

The matter of how long to have the branches is largely a matter of common sense, but the tree when finished should be pyramidal in form, and kept so from year to year, the first few years. It is desirable to have the tree grow spreading, in order to let in sunlight and air to the center.

When pruning the roots of a tree, one should use a sharp knife and cut the root off in a slanting direction, on the under side; this will cause the wound to heal over readily, by throwing out plenty of fibrous roots at the end.

The apple will grow on a great variety of soils, but it seldom thrives on very dry sand or soil saturated with moisture. Its favorable soil is a strong loam of a limestone nature. It is generally agreed that a deep, strong, gravelly, marly or clayey loam, or a strong, sandy loam on a gravelly subsoil, produces the greatest crops and the highest flavored fruit, as well as the utmost longevity of the trees. Too damp soil may be rendered fit for the apple by thorough drainage, and that which is too dry by deep subsoil plowing or trenching where the soil is of a heavy texture. Many orchards are very productive on quite stony soils.

Apple-orchards as a rule do best on northern or northwestern slopes.

SYLVANUS VAN AKEN.

Hotbed-Making

A HOTBED is necessary for the starting of early tomatoes, cucumbers, melons, sweet potatoes, etc., if no greenhouse is available. My method of making a hotbed which is not to be permanent is as follows:

In a well-drained place I dig a trench eighteen inches deep and six feet wide, and as long as I wish to make the bed. If glass is to be used on it, the length should be some multiple of three feet, which is the width of a single ordinary hotbed sash. I use boards twelve inches wide for the sides, and two boards twelve inches wide and six feet long for the ends. The end planks are nailed to ends of side planks. Pieces of one-by-four six feet long are nailed in for cross-bars every three feet, for the sash to rest on.

Manure from the horse-stable, which contains about one half straw, is used. Oat-straw is excellent for this purpose. This manure I fork over several times to insure an even heat by thoroughly mixing it. This trench is then filled about one foot deep and tramped down thoroughly. Then put on a light sprinkling of water, cover with three or four inches of manure again and firm down.

That makes the manure about even with the surface of the ground. Then I fill in six inches of rich dirt which has been thoroughly worked over to put it into the best condition for planting. This is let stand a few days and then it is thoroughly worked to give it more life and kill the weeds which may have started.

I take a board four inches wide and as long as the bed is wide and level with the edge of it, being sure to have the center of the bed fully as high as the sides, for usually the center settles most.

Managing Air and Moisture

I then sharpen one edge of the board and make furrows in which to plant the seed by pressing the edge down into the soil about three fourths of an inch. This leaves the seeds covered about one half inch deep.

If the soil is inclined to bake or crust, I sprinkle some very fine sand over the surface and water lightly with a sprinkler.

If one has no glass sash to put on the frame, it can be covered with a good grade of muslin on a lath frame. I have used muslin covers for hotbeds and find they work very well; but, of course, not so well as the glass sash. The muslin should be placed so that it can be raised on warm bright days, as nothing equals warm bright sunshine for the growth of anything.

I always keep the beds covered closely until the plants begin to come up, uncovering only when necessary to water. In cold weather I water in the morning so the bed can warm during the day. After the plants begin to come up I give them plenty of air, and when not too cold uncover the bed every warm day. R. B. RUSHING.

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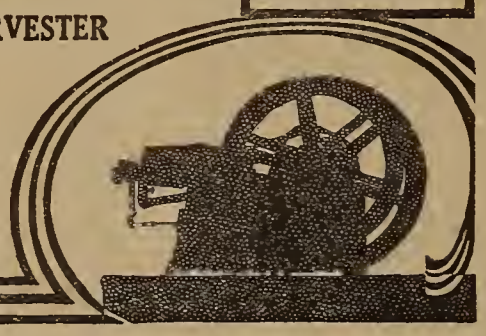

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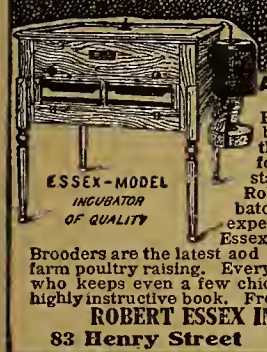

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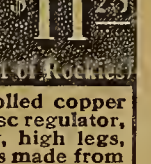

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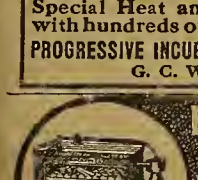

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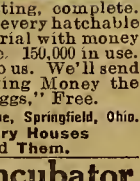

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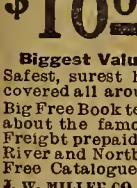

and Almanac for 1911 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about Incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c. **C. C. SHOEMAKER, Box 962. Freeport, Ill.**

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Poultry-Raising

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The first factor in this remarkable record is the location. Mr. Wells chose three acres of light sandy soil, sheltered from the raw westerly winds by a wood-covered hill rising abruptly about two hundred yards away. The drainage is perfect, and that light soil produces wonderfully under the treatment received. Last, but not least, two-inch iron pipes driven down in convenient places, with pumps attached to the tops, furnish an abundant supply of sparkling water.

The hen-house proper is located almost in

Where Mr. Wells' Flock Lives, Lays and is Happy

the center of the three acres. It is two hundred and sixty-three feet long by fifteen feet deep, with roof sloping both ways. There are ten pens extending the full depth of the house and twenty feet long, and four of the same depth, but only twelve feet long. The larger pens accommodate sixty birds each, and the smaller twenty-five. This gives a housing capacity for seven hundred layers, and Mr. Wells never tries to crowd in any more. Inside the house is fitted with curtain-front roosting-closets, feed-hoppers and ordinary box nests. The yards are one hundred feet deep, extending from the back of the house north. Mr. Wells says that another time he would make them half the distance and have the extra land to use. The drainage is so perfect that he has not found it necessary to plow up the yards as yet. With this arrangement there is no need for an alleyway, for a team can drive anywhere along the front to load or unload.

For the Rising Generation

The brooder-house is one hundred by twelve feet, divided into three equal parts. Each section has its own yard, the three together occupying about an acre. The easterly section of the brooder is double walled and windowed, and here is where the incubators are run. There are three of these, two three hundred and sixty-egg and one one hundred and forty. These are run three times, starting the first time about February 15th. The first hatch goes into the brooders in the west end of the house, the next into the center portion, and when the third batch comes off, the brooders are taken from the oldest chicks and placed in the incubator section, while the hatching-machines are taken away entirely. Meanwhile the yards have been plowed and seeded with oats at the earliest possible date. This sweetens the soil every year and provides green food when the little fellows are ready for it.

Mr. Wells starts the chicks on commercial chick food, adds dry mash at the end of the first week, and gradually shifts from the chick food to cracked corn and hard grains after they are three weeks old. The cockerels are killed off as broilers as long as the market holds up and then are shifted to a special yard to be finished as roasters. The pullets remain in the brooder-house until ready to go into winter quarters some time in October.

Killing of the old hens begins the last of September and is over in about four weeks. Except for breeding purposes, Mr. Wells carries no old stock over, and on that account always has a good egg yield during the winter. All the eggs and dressed poultry go to a wholesale marketman in Boston, and the steady supply, with the high quality, makes this arrangement mutually advantageous. The size and vigor so evident all through this flock is one of the most remarkable things about the entire establishment.

On the ground unoccupied by the buildings and yards Mr. Wells raises roughage for a horse and cow, garden truck and small fruits for the table, and all the green stuff that the poultry require. He follows a short rotation which includes clover one year in a place, except for one small plot of alfalfa. Rye is used for green stuff early in the spring, and by sowing thickly Mr. Wells cuts it three times before it gets too tough. Clover and alfalfa come next, and this supply lasts until mangels are ready. Thirty-seven square rods yielded over six and one half tons of the latter this year, or at the rate of nearly thirty tons per acre. As an experiment Mr. Wells is trying hairy vetch mixed with the rye sown this fall, expecting to improve both the quantity and quality of the crop.

Judgment and System

In addition to the home-grown green stuff, Mr. Wells feeds dry mash made in accordance with the well-known Maine Experiment Station formula, and corn, wheat and oats. The hard grains are fed in deep litter morning and night, the quantity varying with the activity of the birds and the egg yield. It is at this point that the fine skill of the proprietor comes in to gage the necessities of the flock. The green stuff is supplied about noon.

From the time the pullets are hatched, they are not disturbed until shifted to winter quarters, and then they remain in the same place until killed. In shifting to winter quarters, Mr. Wells aims to get his best birds together, so that for breeding it is only necessary to add the cockerels. Three males are run with each flock of twenty-five, and four with the larger pens in the breeding season. About two hundred and fifty yearlings are carried over each year to be used for breeding. New blood is introduced through purchased males every third generation. Mr. Wells doesn't take much stock in the trap-nest theory of breeding, but prefers to depend on lots of vigor. He says that if a pullet has plenty of vigor she can't help laying if given the stuff to make eggs with.

To get at exact averages of cost and production takes more bookkeeping than Mr. Wells can find time for, but he thinks that the feed costs about $1.50 per hen while the corresponding income has never fallen below three dollars.

Throughout this well-kept plant there is practically no trouble from vermin. The roosts are painted systematically with crude petroleum, while the brooders are sprayed at regular intervals with one of the coal-tar compounds. These precautions keep down the red mites, and the ample opportunities for a dust bath keep the other parasites from becoming a factor.

Not every beginner could equal Mr. Wells' success. He started with the advantages of previous business training and with a sufficient, though not an unusual, amount of capital. He chose a remarkably good location. But these advantages in no way detract from the credit due Mr. Wells for his record. He had the ability to make the most of his opportunities, and it is this factor of personal ability that is most necessary to success, in poultry-raising as in every other industry.

JOHN E. TAYLOR.

Bread-crumbs ground up fine and moistened are great for little chicks. Milk is good to soak them in, but before you put them out for the little fellows, press a good share of the moisture out. Too much soft, mushy feed is not good.

A New York correspondent sends this hint: "A neighbor of ours lost some of his chicks every night for a long time. He never knew just what the animal was that did it. If he had had some little runs shut in by fine-meshed wire he could have saved them."

Set eggs from hens that are good layers. Don't take them from the boxes promiscuously. Strain is just as much in hens as it is in cows or horses.

A Record Breaking Hatcher That Coins Money

IT'S THE greatest little money maker you've ever seen and it's got the backbone to operate and last for a longer period of years than any other incubator of a given type. As a hatcher it is a little wonder. Nothing else like it on the market. It has a record for high percentage hatches. Poultrymen by the thousands use it in all sections of the country. Ask them. They will tell you all about the reliability and superiority of the Reliable. What will make and save them money will do the same for you. My

***100 Egg Size Reliable Incubator* $7.15**

is without doubt the most efficient of this size you can buy and it costs you less than half of what you ordinarily expect to pay for a first class machine of this size. Has all the most up-to-date improvements—everything complete. The perfect hot air double safety heating and ventilating system. The very best tanks and trays. Carries the most sensitive regulators and thermometers. Made of best materials by the most skilled men known to the trade. In every respect it's a little beauty and a perfect wonder for hatching. Bear in mind, only $7.15 for everything. **Other sizes 65 egg $5.35, 220 egg $11.50.**

And I Pay the Freight to any point east of Denver. I absolutely guarantee any incubator you buy. Order one of these $7.15 wonders at once. Reliable Brooders are the same high grade quality as my incubators.

Send me your order today

80 chick $3.90
120 chick $5.95
220 chick $6.85
Send for my big Free Book and send me your order today.

J. W. Myers
President
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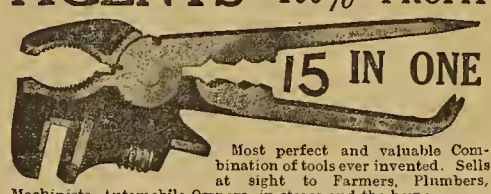

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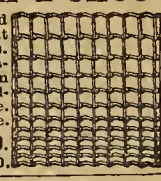

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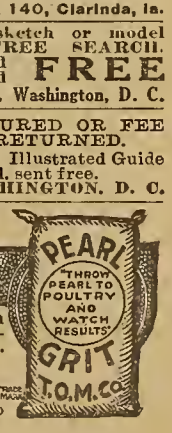

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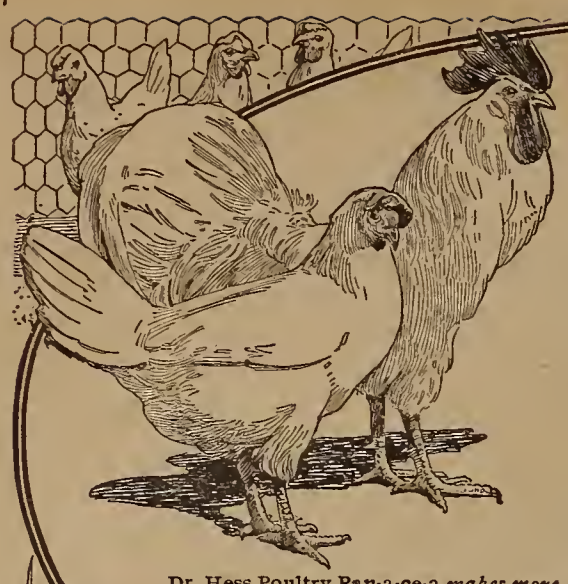

Make Your Hens Pay Better—

Perhaps, Mr. Henman, you go "by the book" and think because you do, you're getting about all there is in poultry. Well! here's a point worth your further consideration. The expert knowledge which you've gathered from the published experiences of others *will net you many more good dollars* if you'll follow "The Dr. Hess Idea" for the care of hens, and mix in the morning mash which you give them a small daily portion of

DR. HESS Poultry PAN-A-CE-A

Dr. Hess Poultry Pan-a-ce-a *makes more of the hen's food digest.* That means *less* food lost through non-assimilation—*more* food converted through the proper channels into meaty eggs. Hens getting Dr. Hess Poultry Pan-a-ce-a stop robbing at the trough and begin paying in the basket. It makes healthy fowls and good profits a certainty. It carries young chicks safely past the many dangers of early chickenhood. It makes market birds and old fowls fat rapidly and it prevents such common poultry troubles as roup, cholera, gapes, etc. Ask your dealer for Dr. Hess Poultry Pan-a-ce-a. Remember "The Dr. Hess Idea—a poor ration well digested, is better than the best ration poorly digested." A penny's worth of Dr. Hess Poultry Pan-a-ce-a feeds thirty fowls one day. Sold on a written guarantee.

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DR HESS STOCK FOOD (ATOMIC) acts on the digestive organs of horse, cow, steer, hog or sheep, to keep them healthy and *active*. Thus its use means increased appetite; more ration assimilated; more milk in the pail and more flesh on the steer. It is a guaranteed preparation which no up-to-date farmer can afford to be without. Keeps farm stock in thriving condition—relieves minor stock ailments.

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Except in Canada and Extreme West and South. Smaller quantities at a slight advance.
Send 2 cents for Dr. Hess Stock Book, free.

INSTANT LOUSE KILLER KILLS LICE

125-Egg WISCONSIN Incubator & Brooder $10 BOTH FOR

If ordered together we send both machines for $10.00—freight paid east of Rockies. Hot water, double walls, dead air space between. Top has three walls. Double glass doors, copper tanks and boilers; self-regulating. Nursery underneath egg-tray. Both Incubator and Brooder shipped complete, with thermometer, lamps, egg-testers—all ready to use when you receive them. All machines sold on a 30 days' trial, if not satisfactory at end of 30 days you can return them, and money will be refunded. Incubators finished in natural wood showing exactly the high grade lumber we use. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Read the letters below—they are actual proof from users, showing the success they are having with our machines. This is the most convincing evidence you could get. Send for the free catalog today or send in your order and save time. Orders shipped same day received. Read the letters below.

WISCONSIN INCUBATOR CO., Box 88, Racine, Wisconsin
Thos. J. Collier, Mgr.

Wisconsin Incubator Co., Racine, Wis. Crow Agency, Mont.
Gentlemen:—I thought I would drop you a line to let you know how I came out with your machine. It has just hatched the second time and anybody would have a hard time to get it from me for three times what it cost. From the first hatch I got 121 chicks from 123 fertile eggs and the second time I put a small tray in front of the egg tray and from 151 fertile eggs I got 144 fine chicks. I am more than pleased with your machine and I am going to get three more before spring. My neighbors have all kinds of machines here and I hold the record with my machine.
F. L. STANLEY

Wisconsin Incubator Co., Racine, Wis. Blanchester, Ohio
Gentlemen:—I am well pleased with the way your incubator works. I think the chick nursery underneath the egg tray is all right as you do not have to take the chicks out until they are all hatched and they come downstairs like the children in the morning. I set the incubator three times and got 245 chicks.
F. FERKEL

Wisconsin Incubator Co., Racine, Wis. Odessa, Mo.
Gentlemen:—It pleases us greatly to be able to say that your incubator is a jewel. We have seen several incubators in operation and none have equalled the Wisconsin. Through six hatches we never averaged less than 90 per cent. We also had excellent results with duck and turkey eggs. We were also pleased to find the material and construction exactly as represented.
H. S. REDDICK

Wisconsin Incubator Co., Racine, Wis. Grass Lake, Mich.
Dear Sirs:—I do not think there is a better machine on earth than your incubator. I have taken off four hatches and I got a 100 per cent hatch the first three times and a 99 per cent hatch the fourth time. From 115 eggs I got 115 chicks, 105 eggs, 105 chicks and from 109 eggs I got 109 chicks. No incubator on earth can beat that. I will stand by this statement as I can prove it.
A. JESSUP, R. No. 3,

This illustration shows the double walls, dead air space construction of our machines.

No other manufacturer can use better material in the construction of his machines than we are using in our machines. Incubator made of California Redwood. Lamps galvanized iron. O. K. burners. Taylor thermometers.

MAKE THESE COMPARISONS BEFORE YOU BUY

They will help you to avoid making a mistake in deciding which machine to buy.

1st Be sure and compare the lumber. Our incubators are of selected California Redwood.

2nd The Wisconsin has double walls with dead air space, a decided advantage. Some have no dead air space.

3rd The egg chamber in the Wisconsin is fully 10 inches deep. Some, to cheapen cost of making, are 8 inches deep.

4th This makes the nursery less than 2 inches and too shallow for little chicks. In the Wisconsin the nursery is 3 inches deep.

5th In the Wisconsin there is plenty room between the egg tray and the door for the chicks to get in the nursery. In some incubators you have to open the door in order to put the chicks in the nursery.

6th The Wisconsin has large double glass doors through which the thermometer can be easily read. Some have a small single glass, making it necessary to open the door to read thermometer.

If you will make these comparisons—weigh them well, I know you will order my machines and be better pleased, for these are cold facts which actual comparisons will prove.

Poultry-Raising

Plan Now for Eggs Next Winter

THE annual batch of complaints about hens not laying arrived a little earlier this winter than in several years. Many people who wanted eggs for their Thanksgiving pumpkin-pies were disappointed, and the sales of "egg powders" were large.

I have tried for some years to impress it on the minds of FARM AND FIRESIDE readers that hens will not lay while they are growing a coat of feathers. The materials, or most of them, that go into eggs are taken up by the growing feathers.

Poultry-keepers have often read in poultry papers about hens laying all through the molt. They have read the same thing in the advertisements of those who are selling drugs and medicated foods, and it puzzles them when their hens do not produce eggs when bountifully supplied with what is declared to be a sure make-'em-lay.

Hens will often lay right along while they are shedding their old feathers, because the shedding is no drain upon the system. Then is when people blow about their hens laying right through the molt. But as soon as the new coat starts the eggs cease to appear. If the hens molt late it is more than likely that winter will be well on before the new coat is finished and they get back to their job. Real fresh eggs are generally worth some money along about August, and poultry-raisers try to keep the hens going. And they will keep going if properly fed. Then as winter comes on eggs are worth still more and the hens have quit business. Now, what are we to do for midwinter eggs?

The thing to do is to have a bunch of pullets sufficiently matured to be laying in December. I have had thousands of April and May hatched pullets laying by Thanksgiving, and they laid all winter. To get them into business by that time one must give them the best care and an abundance of good food. The greatest enemy of early-hatched pullets is mites and lice. In the spring people are so busy that the fowls are more or less neglected, and before one is aware of it their sleeping-quarters are fairly alive with mites, and the check to growth and development is greater than most poultrymen can be made to understand. If the mites are kept out of their sleeping-quarters and they are well fed, pullets will make rapid growth during the warm weather of summer, and will be sufficiently matured to begin laying even in October.

Experience has taught me that it is not best to hatch your laying stock in the latter part of winter, as some amateurs claim, because such pullets very often molt in late autumn, just when you want them laying their best, and all that do molt at that time are out of business most of the winter.

The best and strongest pullets are those hatched in April and May, and kept in the open air all summer. About sixteen years ago I tried the system of keeping them in coops in lots of six to ten, but in two years their stamina was gone, and the stock hatched from their eggs produced chicks that were vitally weak and almost worthless. To develop into good, vitally strong birds they must have air and sunshine and exercise, and these they cannot get in coops. Cooped chickens can be forced to grow rapidly, if only six to ten are kept in one coop, and they are given close attention and the coops moved every day, but they will not produce vitally strong stock. And the labor of attending to them cuts out all chance of profit, if one values his time at anything.

FRED GRUNDY.

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REPRODUCED IN 14 PERFECTLY BLENDED COLORS BY A MARVELOUS NEW INVENTED "ORIGINAL COLORS" PROCESS. SIZE OF PICTURE 16X22 INCHES

THIS SPLENDID PAINTING OF DAN'S HEAD WAS MADE FROM LIFE AND I WANT TO ASSURE YOU THAT IT IS AS NATURAL AND LIFE LIKE AS IF DAN STOOD RIGHT BEFORE YOU.
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IT IS AN EXACT AND PERFECT COLORED REPRODUCTION OF THE FINEST PAINTING EVER MADE OF THE SENSATIONAL AND WORLD FAMOUS CHAMPION STALLION, DAN PATCH 1:55. I THINK SO MUCH OF THIS PAINTING THAT I HAD IT REPRODUCED IN A BEAUTIFUL STAINED ART GLASS WINDOW IN MY COUNTRY HOME. THIS PICTURE WILL BE A PLEASURE FOR YOU AS LONG AS YOU LIVE BECAUSE IT SHOWS DAN'S TRUE EXPRESSION OF KINDNESS AND HIS LOVABLE DISPOSITION AS NATURAL AS LIFE. YOU CANNOT BUY A PICTURE LIKE THIS BECAUSE I OWN THE PAINTING AND HAVE RESERVED IT EXCLUSIVELY FOR THIS USE.

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WRITE ME TODAY and ANSWER THESE 3 QUESTIONS. 1st. How many head of Each Kind of Live Stock and Poultry do you own? 2nd. In what Paper did you see my offer? 3rd. Have you ever used "International Stock Food" for Horses, Cattle, Sheep or Hogs?
Would you like the Finest 14 Colors Horse Picture ever published in the world of the Fastest Harness Horse in all Horse History? I will mail you one copy, size 16 by 22, promptly and with Postage Prepaid.
If you love a Great Champion I do not believe you would take $10.00 for The Picture I will send you free, if you could not secure another copy. Write Me At Once and this Splendid Picture is yours Free.
YOU MUST ANSWER THE 3 QUESTIONS. M. W. SAVAGE, Minneapolis, Minn.

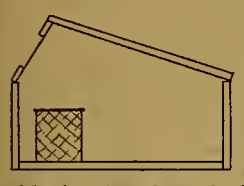
DAN PATCH HAS PACED 14 MILES AVERAGING 1:56½, 30 MILES AVERAGING 1:57½, 73 MILES AVERAGING 1:59½

Poultry-Raising

All Sorts of Home-Made Brooders

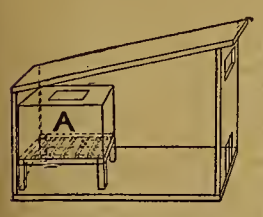
EXPERIENCE-LETTERS in considerable numbers have come to us in response to our request published November 25th, for facts about home-made brooders, so many, in fact, that we can find space for only a part of them. Those published herewith include the best descriptions received of each principal type of home-made heated brooder, beginning with the simplest. Many other letters contained points of excellence, and we wish to express our thanks to other correspondents whose descriptions were unavailable.

The simplest type of artificially-heated brooder is lampless—practically a "fireless brooder." Mr. Henry Higgins, Scott County, Illinois, sends this description:



To make two or three brooders, which I have found very satisfactory, I used boxes two and a half to three feet square. The tops slope two ways as shown in sketch. The shorter side is glazed, and the larger side makes a hinged lid. In each of these brooders I set a wire cylinder about six inches across and a foot high, on top of which I place a warm soapstone, which holds heat all night in the coldest weather. A hover of the ordinary type—a frame supporting a round wooden board, with flannel strips hanging from it nearly to the floor—may be placed in the brooder for the chicks to huddle under.

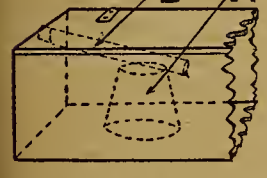
Mr. N. B. Linganfelter, Franklin County, Pennsylvania, has another sort of lampless brooder which accommodates up to twenty-seven chicks. He has raised that number in it without a single loss. Here is his letter:



The brooder box is about two feet long, fourteen inches wide and seventeen inches high in front, lined with heavy paper inside the sides, back and lid. The lid is hinged. There is a small door in front for the chicks and a glazed window higher up. Heat is supplied by the tank (A), made of galvanized iron. Mine is nine and one half inches long, thirteen and one half inches wide (nearly width of brooder), four and one half inches high. The height might be greater. A detail not shown in the sketch is a rim extending around top of tank to prevent hot water from slopping on chicks by any chance. An iron cover with handle is laid over hole in top of tank. Water just at a boil is put in, and with my brooder it needs renewing twice a day in cold weather.

The tank rests on a frame so it is raised four and one half inches from floor of brooder. The frame under tank is made of slats, set close together, so no chicks can get their heads up between slats, from which hangs flannel cut in strips, to within about an inch of the floor. Around outside of frame, let the flannel, cut in two-inch strips, hang almost to floor as a curtain. Omit flannel strips from two back slats (next back of brooder) or the chicks will pile up against the wall and smother. This plan gives us a heated hover under which the chicks can go at will, and the whole box is fairly warm.

The simplest lamp-heated brooder described was that of Mrs. Frank Shoup, Texas County, Oklahoma, who says:

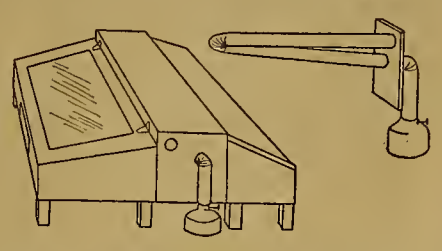


Our brooder, with which we have raised several lots of chicks, is a box four feet long by two and a half wide, with hinged top and a small chick door in the front. In bottom of brooder a round hole is cut, just large enough so a six or eight quart pail (A) can be thrust up into it from underneath. The rim of pail must fit hole closely and there must be no leaks in pail, so no deadly lamp fumes can get through to chicks. A two-inch tin pipe (B), long enough to reach from center of box through the side, is laid across the pail slanting upward through hole in end, for a ventilator. A lamp—an old one from an incubator is best—is placed under the pail and warms it. This heats the brooder. To admit the lamp, the brooder is raised ten inches or so from the floor on a frame and a runway to floor furnished for chicks.

W. D. Neale of Otero County, Colorado, sends the following plan:

The middle section is a box sixteen inches high, twelve inches wide and thirty-six inches long. The heating apparatus is a lamp with a two-inch tin pipe over it for a flue running lengthwise of the box about four inches from the top, curving at the farther end of the box and returning, there being a continuous upward slope to the pipe, so that it has some little draft. This apparatus is shown in detail at right of sketch. A flat lamp with short tin flue was used.

On each side of this main box is a wing or extension with slanting roof, one wing being four feet wide and the other twelve inches. The height of these wings next brooder is twelve inches and each has a two-inch slant. These compartments are separated from main box by felt flaps so that



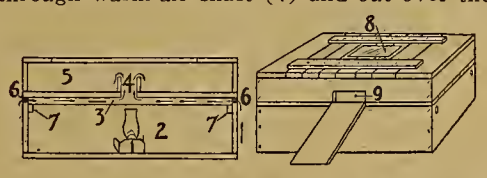
chicks have access to all. The roofs of the wings are hinged, and in the larger roof is a window-sash.

From Leslie L. Haskin, Linn County. Oregon, comes the following design of a brooder, worked out in greater elaboration and for work on a larger scale. The sketch below shows, at the left, a cross-section, and at the right, a perspective view. Here are the directions for building.

For the base, or lamp-house (2), build a box one foot high, two and one half feet broad and four feet long (inside measurements), open at top and bottom. Nail cleats (7) all around inside one and one half inches from top. On these cleats lay a piece of medium-weight sheet-iron, two and one half by four feet, and nail it there. On top of the box lay a floor of close-fitting or matched boards. This gives a double floor with one and one half inches air space (3). In the center of the wooden floor cut a hole four inches square, building over it a box (4) of the same size and three inches high, open at bottom and covered at top with wire screen. This is a warm-air shaft.

For the brooder proper (5) make another open box of the same dimensions as base, but only six inches high. Set this on the base, and across the top of each end nail a six-inch board, to hold it square and rigid. The rest of the top is a cover (loose, not nailed) having a panel of glass (8) set in the center. In the front of brooder cut a door (9) four by six inches, for chicks' entrance. In the back of the base cut one ten by twelve inches, for convenience in caring for lamp. Take a three-fourths-inch auger and bore two holes (as 6) at each end of base, three fourths inches from top, into the air space between floors. Place the covered brooder on the base, start the lamp (1) directly under warm-air shaft, and the brooder is complete.

The lamp beneath the sheet-iron heats the air in the air space (3) which flows up through warm-air shaft (4) and out over the



backs of the chicks. This makes a fine overhead heat, the thickness of the wooden floor preventing undue bottom heat. At the same time fresh air is continually being drawn into the auger holes at ends to be heated. No lamp-fumes can ever enter the brood chamber.

The brooder is made this width to accommodate the commercial size of sheet-iron, but is also the proper size for about fifty newly-hatched chicks.

The floor may be swept off by simply lifting the brooder off the base.

The chicks' door should be fitted with a slitted flannel curtain to retain heat when they are running in and out. If it is desired, the brood chamber may also be divided by another curtain, to give chicks a greater choice of temperature.

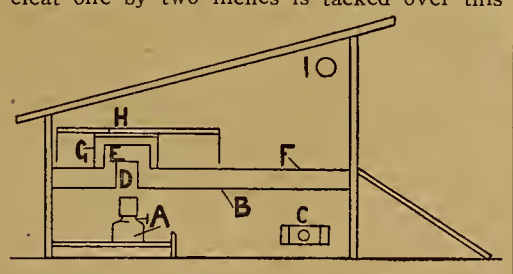
A thermometer may be used by hanging it through a hole in the brooder cover, but it must be guarded, else the readings will be inaccurate, owing to chicks crowding against the bulb.

Be sure to screen top of warm-air shaft, or chicks hopping upon it will fall in and be burned.

I have had best success with this brooder when I used a make of lamp constructed like a miniature oil-stove, with a water-tank over the oil-reservoir. While I have found no danger from fire so long as lamps are carefully tended, still I advise using lamps having some form of water-jacket.

On the other side of the continent, in Fairfax County, Virginia, James S. Westcott has worked out a plan on the same principle as the above, but with additions. Here is his description and sketch, a cross-section view:

The sheet of galvanized iron (B) rests on a cleat running around brooder. Another cleat one by two inches is tacked over this



on which rests floor of brooder (F) made of matched lumber. Half-inch holes are bored from outside into this air-space between floors. The lamp (A) sits directly under D and should have low chimney or no chimney. D and E are two tin cans, D fitting into an opening in the galvanized iron and E into an opening in the floor of brooder. The top of E has many small holes punched in it, to allow the air which enters the holes

[CONCLUDED ON PAGE 16]

J. V. ROHAN, Pres.

And Now You Can Buy The World's Champion 140-Egg Incubator

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Freight Paid E. of Rockies

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Let me ship you one of these complete outfits, all freight charges prepaid, to your station, on 90 days' free trial. The Belle City Incubator is an old, tried, tested, proven machine. I have been in the incubator business and my machines have been on the market for 28 years. I print thousands of testimonials and photographs of people who are using my machines in my printed matter. My plan is quick sales and a lot of them at a low price.

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I will be glad to send my literature of this complete hatching outfit free, giving you all the information you may want. I advise you to get your outfit early. Have it on hand all ready to run when your eggs are ready.

I have sold thousands of machines direct from my advertisement. Everyone that reads farm papers knows that I am responsible. If you want to, you take no risk in ordering direct from this advertisement.

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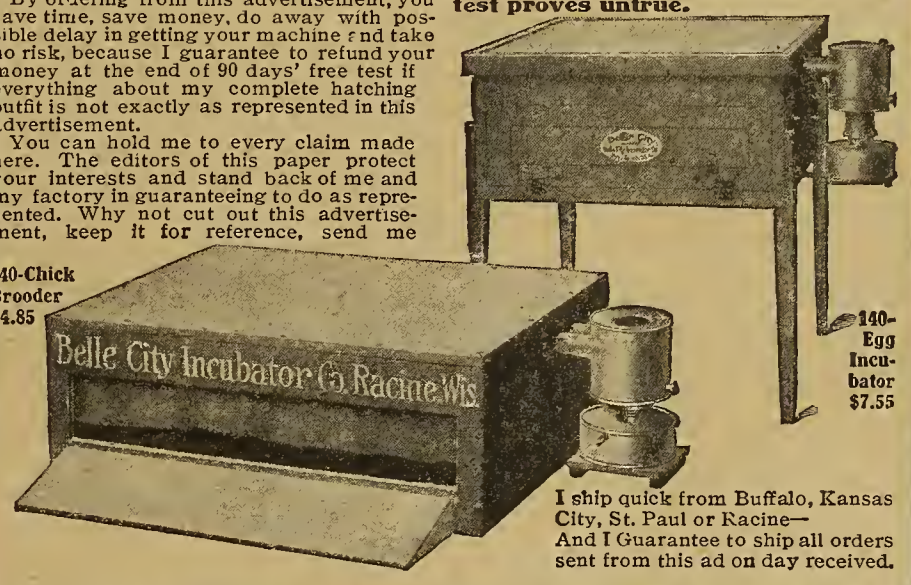

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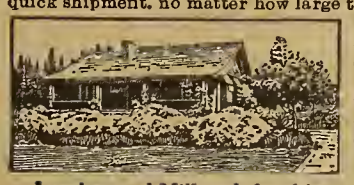

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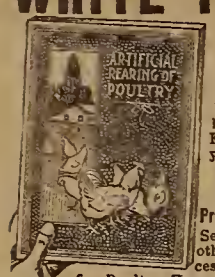

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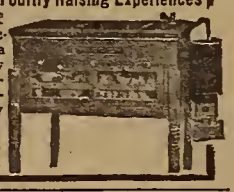

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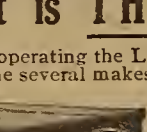

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Poultry-Raising

Alfalfa—A Great Green Food

Not many years ago if a man had proposed feeding hay to his hens, he would have been considered a mild lunatic. Yet now thousands of tons of hay are fed to the poultry flocks of this country every year.

From the earliest times poultry-raisers have noticed that hens having access to green food lay better than those deprived of it, but it took poultrymen a long time to learn that they could feed green vegetables in winter with profit and still longer to learn to feed hay. First, lawn-clippings dried in the shade were tried, but every poultry-raiser is not so situated that he can store lawn-clippings or secure green vegetables. Then came a genius with the idea that clover-hay might be cut into pieces short enough to be swallowed by the hen, and cut clover at once became a favorite feed as a winter substitute for grass and other green feeds. Later clover-hay was ground into a fine meal to be used as the component part of a warm mash, and it has made a very good feed.

In the meantime alfalfa was found superior even to clover for live stock, and analyses at the agricultural experiment stations showed why. It is richer in protein, the substance which is a component of the white of eggs and that element of feeds which makes lean meat, than any other forage crop. Clover-meal by this time was being used in large quantities and alfalfa-meal was tried. It was found to be really a great feed for laying hens and growing chicks. The best alfalfa-meal when slightly moistened turns a vivid green, and the odor from it is like new-mown hay. All kinds of poultry eat it greedily, and when fed to growing chicks it helps them develop strong, vigorous muscles and large, hard bones. Fed to laying hens it provides them the very material needed in making eggs. A combination of productiveness and fertility of eggs that has long been sought is brought about by this new feed.

Recently a very prominent and successful poultryman said to me: "I never had my hens lay so well at this time of the year. I began feeding alfalfa-meal a few days ago and since that time we have been getting eggs by the basket. I think it is the best single feed for laying hens I ever used."

A number of our best prepared egg rations have alfalfa-meal as a base instead of oil-meal. A combination of alfalfa-meal, beef-scrap, ground bone and a few other ingredients of minor importance makes the best feed for chicks that can be secured.

With alfalfa-meal the poultryman need not hesitate about keeping his laying hens confined the year around, so far as the getting of green food goes, for the meal is fully as valuable in maintaining health and productiveness as the best natural grass. Of course, the providing of exercise comes in as a problem here.

Aside from the virtue of alfalfa as meal, green alfalfa is one of the best-known summer foods for hens. A piece sown near the poultry-yard makes an excellent place for them to forage and will save lots of grain. We sowed a piece last spring and let a lot of young chicks have access to it, and we never had chickens do so well. The chicks on being let out in the morning would make right for the alfalfa-field. A succulent food that contains sufficient protein for the support of the whole body, and for egg production, is the most ideal food, and alfalfa fills these requirements. Try a piece of alfalfa this year and be convinced of its value for poultry. Most soils not too sour can be made to grow it, though it may take some extra care to get a stand of it at first. But the planting of alfalfa is now well understood and does not present any great difficulties to the poultryman, who will not want any great area all at once.

A. E. Vandervort.

Boiled-Down Poultry Lore

One good hen beats ten loafing scrubs.

Market your eggs while you can say with clear conscience, "They are certainly fresh eggs."

A Connecticut subscriber says: "Tell the farmers to use red cedar or sassafras poles for perches for their fowls; mites do not like the taste of either." There may be something in this. Who knows?

While the chill of winter is still in the air do not place more than eleven eggs under an ordinary-sized hen of the American breeds. These are all she can cover properly, and if she is a little undersized, ten eggs are a great plenty. There is always a temptation to go beyond the proper limit in furnishing the early setters with eggs. Broody hens are apt to be scarce at this time of year and the disposition is to make the best possible use of the few which can be secured.

Having an overabundance of potatoes and no sale for them, one of our Ohio subscribers, last spring, fed them liberally to his hens. The tubers were boiled and mashed with bran and various grains mixed with sour milk. When the potatoes were discontinued egg-production was not reduced. "Why was that?" he asks us. According to experiment station poultry authorities, the ration fed in addition to the potatoes was already "wide"—that is, it contained as large a proportion of carbohydrates, as compared with proteids, as was necessary, even before the potatoes were added. Potatoes, which contain more carbohydrates, therefore, did not better the ration. Had a too "narrow" ration been supplemented with the potatoes, the effect would have been to increase the sustenance and probably the productiveness of the hens.

All Sorts of Home-Made Brooders

[CONTINUED FROM PAGE 15]

between floor and galvanized iron, and is heated by lamp, to pass out over heads of chickens. A guard (G) made of wire screen is fastened around E, about an inch away all around, so that chicks will not be burned by crowding against E. On top G is fastened to the hover (H), built round and having the usual strips of flannel hanging down from it almost to floor. The ventilator (I) has a tin slide over it which can be closed in cold weather. The ventilator (C) is for lamp and is covered by a board built out one half inch from side of brooder on cleats, so that opening is screened and gusts of wind do not extinguish lamp. There is a door in rear (not shown in sketch) for getting at the lamp. There is a window (not shown) in front of brooder chamber and below that a small door for the chicks, with a "gang-plank."

Be careful to solder can (D) carefully to galvanized iron (B) that no fumes from lamp may reach chickens.

Just how great is the utility of these home-made brooders? They are, as one correspondent expressed it, "right handy" for small numbers of chicks unexpectedly left orphans by the loss of a hen or artificially orphaned by hatching them with the incubator. Only the last two brooders will do for work on a large scale.

It should not be expected that these brooders will do the work of the factory-made article, and only one of our correspondents makes that claim. The main difficulty is in getting a lamp that will give an even heat for any considerable time, unless a regular brooder lamp can be had. But while the large-scale commercial grower cannot very well, with economy, use the brooders here described, the fact does not lessen their value to the small-scale poultry-raisers whose needs do not warrant the purchase of a brooder.

In our next issue we will publish the letters of some correspondents who have tried fireless brooders.

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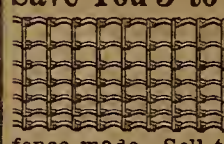

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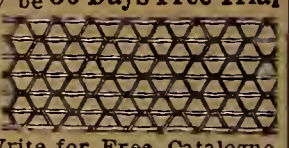

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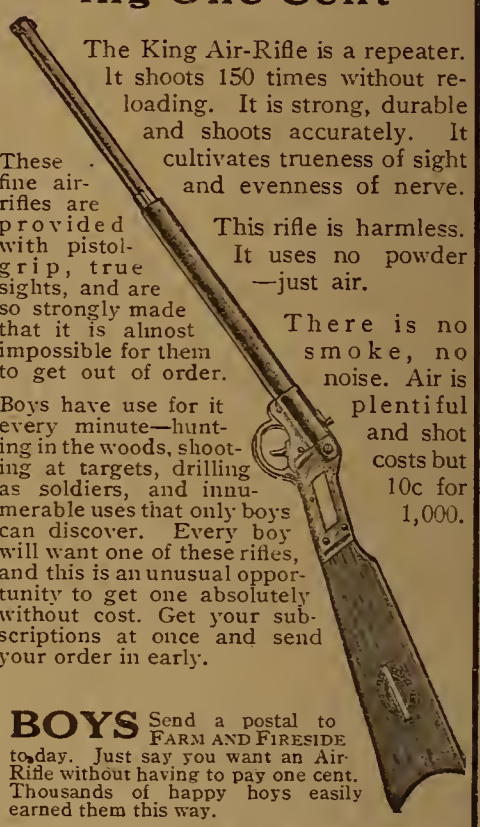

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"Two years ago," she writes, "being in a condition of nervous exhaustion, I resigned my position as teacher, which I had held for over 40 years. Since then the entire rest has, of course, been a benefit, but the use of Grape-Nuts has removed one great cause of illness in the past, namely, constipation, and its attendant evils.

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is responsible for *our great* success, and will give to the struggling beginner all of the profits and none of the losses. Absolutely automatic in every function, unvariable temperature, certain moisture from the moment of starting the hatch until nature requires a cessation in order to properly dry the newly-hatched unit of future profit—so thoroughly safeguarding its entrance into poultrydom as to guarantee its livability when raised under the very acme of "Foster Mothers," the

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This Hover makes possible the rearing of the maximum of chicks and the minimum of deaths—90% to 95% live and thrive and grow. It is the only device that contains the *active principle of the hen,* and the ingenuity of man can go no further.

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We have just completed our 1911 catalogue on incubators and hovers, also our stock catalogue on Rancocos Strain BABY CHICKS and HATCHING EGGS. You are welcome to either or both of these catalogs. Send to-day.

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Poultry-Raising

Incubator Wisdom

HERE are hints worked out by two expert poultry-keepers of long experience. Beginners with incubators—and perhaps some older hands—will find these pithy paragraphs valuable supplements to the directions which incubator makers furnish. In one or two minor details these two sets of recommendations clash. We present these differing views in recognition of the fact that incubator-running has not been reduced to an exact science. In points at all open to debate it is a good thing to be familiar with the reasons for the differences of opinion. EDITOR.

How to Run the Incubator

CHEAPNESS in an incubator should be no inducement to the buyer. I do not want the reader to believe that the costliest machine is the best. What I desire to emphasize is the fact that a machine considerably below the market prices of standard makes of incubators is doubtless also below them in hatching possibilities.

When your machine has been set up you will have to run it a day, maybe longer, to get the heat under control. In starting it, I would run with ventilator wide open for a few hours. When you have adjusted your regulator according to the instructions coming with your machine, and it maintains an even temperature of 102 or 103 degrees, you are ready to place your eggs in it.

The eggs will do best if they are of uniform size. The eggs of Brahmas, Cochins and other heavy breeds, never do as well when incubated with eggs from Leghorns, etc. Better results also come from eggs as nearly as possible of the same colored shell, for brown eggs are thicker shelled than white ones and are always later in hatching and require more ventilation to dry them down, or secure the proper air space, hence, if the two lots of eggs are incubated at the same time, if you provide the correct ventilation for the former it will be wrong for the latter.

After the eggs are placed in the machine the temperature will drop considerably and it will take several hours to get back where you started it. If your previous regulation has been correct, however, you will see it go back to 103 and stay there.

See to it that there is no direct draft on the lamp, as it will cause it to smoke and also cause the machine to become unevenly heated.

Let the Regulator Do It

After the second day begin to turn the eggs at a regular hour, morning and night, also cooling once a day, preferably in the morning, and filling lamp, too, at night. When there are very marked changes in the weather, a little care should be exercised to see that a little more (or less) lamp flame is given. You will soon get the "hang" of the thing, and then you will wonder how you ever got so nervous and scared, and why you looked at the thermometer every two and a half minutes. Looking at the thermometer won't hurt, if you will only quit "monkeying" with the regulator, for if you started the thing right, the regulator will, within reason, take care of any little inside changes. If there is any adjusting to be done, it should be before the eggs are placed in the machine, and after that you can do all that is necessary by controlling the lamp flame.

On the seventh day you will be ready to test the eggs. Good testers are sold by poultry-supply houses, or you can perhaps make one. They are simply shades arranged so that an egg, when placed at a hole in the shade, gets the full light shining through it. It is better for you to start with the thin-shelled eggs, as they show better the "germ" in the egg, which will look like a spider with little blood veins for legs. You will see it move, contract and expand, and after that it will be easy for you to pick out the strong, fertile eggs; but with very thick-shelled eggs you will find it more difficult. If you are a beginner and are in doubt, break a few eggs in a saucer. You may lose a few chicks by this process, but it is the best of all teachers.

First's the Worst

The first week of incubation is the most critical. Follow carefully the instructions that go with your machine. If your hatch is a good one, you may continue the same way for the next hatch, but if the reverse, you should immediately write your incubator manufacturers, giving details. They cannot afford to have displeased customers and should be more than willing to help you out.

On the seventeenth or eighteenth day all hatchable eggs will appear perfectly dark, except the air space. Those which are not are worthless. If the air space is too small, your ventilation must be opened wider; if large, it must be closed up some. Your operating instructions will give you the correct size that the air space should be at certain stages.

When the nineteenth day comes around some of the eggs will probably commence pipping. I don't believe in opening the machine after this until the hatch is over, not even to help out a struggling chick. If you do, you endanger the balance, and a chick that can't help itself out will never amount to anything. Keep the chicks in the machine twenty-four hours, throwing the ventilators wide open after the hatch is over.

Don't forget to clean out the incubator thoroughly and fumigate it after each hatch. Don't get excited if the heat runs up to 105 degrees when hatching. This is all right.

All eggs that are not hatched by the twenty-first day are worthless and even if they do hatch out the chicks will never amount to much.

Memoranda

See that the lamp-burners are kept clean.

Do not leave the doors of the incubator open when cooling the eggs.

Dark-shelled eggs are a little later in hatching than light ones.

The warmer the weather, the more ventilation should be provided.

When the outside air is laden with moisture, increase the incubator ventilation.

During the last part of the hatch a fertile egg will be one or two degrees warmer than an infertile one in the same tray.

There is very little danger of cooling down too much, except in freezing weather. The hen will leave her nest in zero weather and still bring off a good hatch; why not the incubator?

Too much moisture has killed more chicks than too little. A. E. VANDERVORT.

Directions Plus Good Judgment

BEGINNERS should read up on all the principles and processes of the hatch and be sure that they understand the work before filling the machine with eggs.

After the incubator is set up and properly located start with a few eggs or none at all and run it for a day and a night, at least, to see if you can keep the temperature even. There is no magic about it, but a little practice sometimes saves some very costly experience, later.

Be sure that the machine sits level and that the thermometer registers correctly. Determine the former by a spirit level. Test the thermometer with a clinical thermometer or one that is known to register correctly. Unless this is done the thermometer may be the cause of a failure. If the incubator is large, two thermometers should be used, or one in each tray.

Directions are always sent out with the incubator, but a little judgment should be used with the directions. Good judgment is a prime factor in the business of hatching chicks by machinery—or in any other line of business for that matter.

The Surroundings Count

Don't try to operate an incubator in a room where doors are being frequently opened. If the machine must be in the house, it should be in a room which is unoccupied. A dry cellar is the best place. A damp cellar will not do. Neither will one that cannot be thoroughly aired. When placed in a cellar a good incubator needs very little attention because there are no drafts. A cold draft will lower the temperature in the egg-chamber several degrees in a few minutes unless the ventilator is closed.

A cellar or basement is the best place in summer, also, because it is sometimes a difficult matter to keep the temperature from going too high.

Don't be afraid that the lamp will explode. There is no more danger than with an ordinary lamp. But, of course, the incubator-lamp needs more attention. Have a regular hour each day for filling the lamps, cleaning the burners and trimming the wicks.

Trimming wicks is very important. If a strong heat is needed to keep the temperature right, cut the wick square across. When less heat is required in mild weather or the latter part of the hatch, trim the wick with the corners rounded. This gives a pointed flame and less heat. Be sure that the wick fits the burner. If too small, get a new one and save trouble.

Use only the best grade of kerosene, and you will not be bothered with smoky lamps. If soot does accumulate in the pipes, remove it without delay, for soot makes it difficult to keep the heat up. A stout switch with a bunch of feathers tied to one end will do the work. This should be done when the lamp is not in position.

Turning and Airing Eggs

Turn the eggs at regular intervals, the same hour each day. With our incubator, we change the trays every day. If the position is not changed, those directly under the ventilator will not hatch well. Changing the trays from one side to the other and back to front is all that is necessary.

I don't believe in spending any time airing the eggs in cold weather. They get all the air they need while being turned. Anyway, it isn't safe to take chances.

It sometimes happens that the first-hatched chicks suffer greatly while waiting for the slow ones to come out. It is almost impossible to test thick-shelled eggs properly, and the "slow" ones too often contain dead chicks. If necessary, keep an oil-heater near the incubator while the chicks are hatching so that the inner door can be opened once or twice and the older chicks removed.

If the first hatch is not what you were counting on, don't be too quick to find fault with the incubator. Ninety-five times out of every hundred the fault is either with the operator or the eggs. Remember that the best incubator ever built cannot hatch infertile eggs or bring live chicks out of eggs that have been carelessly handled, either before or during incubation. Remember, also, that the temperature must be kept normal in order to hatch normal chicks. If too high, the chicks are liable to be crippled. If too low, they will be slow to hatch and very weak. ANNA WADE GALLIGHER.

Some Useful Crosses

AMONG many poultry-keepers there is a prevalent idea that pure-bred fowls are delicate and unprofitable, and that there is no bird to equal a real, genuine mongrel. Considering the number of hardy and free-laying breeds that have come to the front during the last few years, it is difficult to agree with this.

However, there is no doubt that a cross between two pure breeds promotes strength and quick maturing. I refer, of course, to the first cross only. In the second cross between two cross-breds, or even in a cross between a cross-bred and a pure-bred, the virtues of the original stock almost invariably "go to pieces" and we have non-descripts.

The purpose of crossing is to get some specially desirable type of table or laying bird, but not to get breeders—at least not in the case of the utility poultryman who does not want to bother with breeding experiments.

Which is the best cross? That is a question without an answer, for there are several crosses preëminently useful for different purposes. A favorite cross, and one that is difficult to improve upon, is the one produced by crossing a Minorca cock with a Black Orpington hen. The offsprings are black, some taking a good deal after the Minorca in shape and appearance, and others bearing more resemblance to the Orpington. The pullets lay nice-sized eggs, some laying brown eggs and others slightly tinted. They are well adapted to either a free range or a small run. Some of the pullets will not become broody, and those that do are easily broken of their broodiness.

My own experience has been chiefly with breeds more common abroad than in the United States, but it may have greater interest on that very account. Among the less common breeds, Langshans cross well with most of the Mediterranean fowls. A capital laying hen is produced by mating the Andalusian with the Langshan. The eggs of this cross are large and mostly colored. The chickens are usually black.

The Houdan-Leghorn is another excellent cross, hardy and prolific, and doing well in a limited run. The eggs are white. A cross frequently seen in parts of England is the Redcap-Buff Cochin. It is light in ground color, covered with dark red spots and is very hardy and a free layer.

Among other good crosses are the Leghorn-Brahma, the Plymouth Rock-Houdan, Leghorn-Wyandotte and the Dorking-Indian Game. The latter is considered the best cross for the table. W. R. GILBERT.

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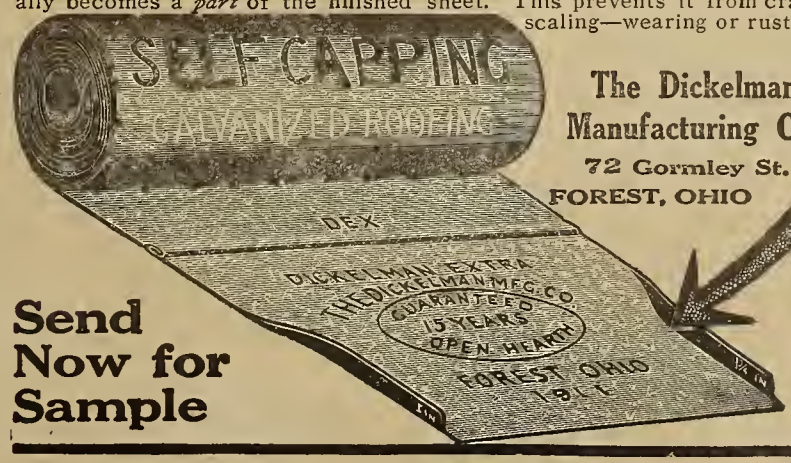

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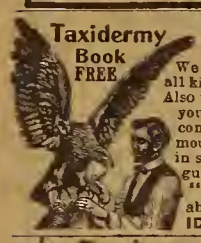

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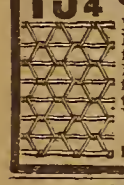

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Poultry-Raising

Line Breeding Explained

SOMETIMES a subscriber who keeps pure-bred fowls and who desires to avoid inbreeding, and yet wishes to stop the expense of buying new cockerels every year to avoid inbreeding, asks this question: "Is it possible to work out a system by which one can divide the flock or in some way avoid breeding from exactly the same blood succeeding years, without too much labor and too much keeping track of the different pens?"

Here is an example: Suppose you buy all your eggs for hatching from one place. Is it safe to breed the cockerels from this hatch to the pullets from this hatch? If it is safe to so breed the first year, how long would it be safe to keep on breeding without introducing new cockerels?

It is quite common for poultrymen, especially beginners in raising pure-breds, to buy eggs in the way outlined, all from one yard, without knowing whether all the eggs are from one breeding or not. While there is no special assurance that the chicks hatched from these eggs are sisters and brothers, there is no special assurance that they are not. In breeding the finest of these cockerels to the best of the pullets you may be making the worst kind of a start toward all the disasters that follow inbreeding.

You can do this, and by the union of your finest specimens continue so breeding, bring forth in every flock standard marked fowls of prize-winning quality; but, according to my experience, in from three to four years you will have weakened your flock as a flock, you have decreased its general size, made it susceptible to disease and deformity, and the cockerels you sell in many cases will prove infertile.

Line Breeding and Inbreeding

Line breeding is a different proposition from inbreeding. It begins in this way. You buy, say, one pen containing ten hens and one rooster, of the stock you prefer. You rear from this pen and set apart as many of the finest pullets and cockerels as you wish to keep. When you make up your yards next season select the very best cockerel of the bunch and mate him back with the hens purchased the year before. Select ten of your very best pullets and mate with the rooster purchased the year before.

Now you have made your start for what is called line breeding. The pullets and cockerels of the breeding back to the parent stock must be marked, and these mated back to, the next year, the grandparent stock. In this way you are always getting farther and farther away from the relationship of sister and brother.

But to do this you cannot run away from keeping close tab on the pens and the line. It entails trouble, and if you only keep a limited number of chickens, some of the degenerating signs of inbreeding usually show in the long run, in spite of what is sometimes asserted to the contrary. The men who can line breed best are the big breeders who raise thousands of chickens each year. These men can line breed and still keep up the vigor of the flock, as the pen they have on their list as No. 100 is as far from relationship from pen No. 2 as if they had sent a thousand miles away for it.

A Safe System in Small Flocks

For one who does not breed extensively, and cannot keep up too many pens, here is a better way: The second year, while breeding back the daughters to the fathers and sons to the mother, buy a setting of eggs, and from these select your breeding cockerels for the third year. The fourth year breed back again as I have described, again buying eggs that year from which to raise your breeding males. In this way every two years you buy eggs.

Of course, if you are breeding to a certain standard, and have your flock built up to that, you often undo all the work by introducing new breeding stock that is not in line with your ideal. That is why, if you are thus working toward a certain standard, it is best to start your foundation stock on line with the flocks of some large breeder, and buy new your breeding eggs or stock thereafter, every two years, from these same yards. Keep a record of which of the big breeders' pens you have bought from, so that, though you get stock each time line bred as your own, you can have the breeder pick out the new stock from a pen so remotely related to your old stock that it cannot be looked upon as related at all, so far back is it.

Another hint: Were I buying eggs as a start, I would buy half the eggs from one yard and half from another yard so remote from the other as to preclude relationship. Then I could safely unite these pullets and cockerels, making up several pens of them the next year. Or, if not buying from two firms distant from each other, I would buy from remote pens in one of these large poultry plants that raise thousands of one breed a year.

IDA M. SHEPLER.

A Flock Record and Its Making

OUR flock made a record for 1910 that was pretty creditable, and FARM AND FIRESIDE's readers may care to hear how it was done. Beginning January 1st, we kept an accurate record of eggs produced, and up to our last accounting (December 1st) the flock, averaging thirty-six hens, had produced 5,577 eggs. In order to get the exact average per hen it is necessary to give the average by months as we had not the same number of hens throughout the year. There were forty-two hens in the flock during January and February, and the number of eggs produced was 827, or an average of 19.69 eggs per hen for the two months. In March, April, May and June there were thirty-six hens which produced 2,726 eggs, or 75.72 per hen for four months. In July and August thirty-five hens produced 1,103 eggs; average per hen 31.51. For September, October and November there were 921 eggs; average per hen 27.09. This makes the average per hen for the entire eleven months 154.01 eggs.

The flock was made up mostly of White Leghorns, but there were a few mixed hens, cross between Plymouth Rocks and Leghorns. Seventeen were pullets, the remainder two and three year old hens. They were comfortably housed and well fed, but were not in any sense forced for eggs. As shown by the averages there were no phenomenal records, the highest average being twenty-two eggs per hen for March; but the hens kept laying throughout the year and that is what counted.

Feeding

Our principal feed throughout the year was corn and wheat, but other grain was used, also, just as we happened to have it—oats, rye, sunflower and a little waste popcorn. During the coldest weather a warm mash consisting of bran, corn-meal and alfalfa-leaves was fed in the morning. The alfalfa-leaves were first moistened with boiling water and allowed to stand for a few minutes, then enough bran and meal, mixed in the proportion of three to one by weight, was thoroughly mixed with the alfalfa to form a crumbly mash. Only a small quantity of the mash was fed in the morning, just enough to warm the hens up quickly. The remainder of the morning feed consisted of corn and wheat in equal parts, scattered in deep litter.

A little grain was fed at noon, and at three o'clock in the afternoon as much grain as the hens would eat up clean; the quantity varied on different days. It is impossible to state the exact amount a given number of hens should be fed, as there are so many varying circumstances to be considered. Some form of green food for the hens was provided daily. Cabbage, beets, carrots, turnips and potatoes were used, the potatoes very sparingly, as their too free use is apt to cause digestive trouble. A mixture of bran and middlings was kept in hoppers where the hens could help themselves at any time. Grit, charcoal, crushed shell and fresh water also were kept before them. The only meat they received was in scraps from our table. No doubt the egg production for January and February would have been greater had beef-scrap and green bone been added to the ration.

Other Worth-While Hints

During the spring and summer months the hens had the range of several acres of pasture-land, which furnished an abundance of green food and insects. The amount of grain fed daily was reduced to almost half in midsummer, and the warm mash was discontinued in March. No material change was made in the feed during the molting period, other than the feeding of some sunflower-seed.

Throughout the year we cleaned the droppings out of the poultry-houses several times a week and whitewashed the perches frequently. Cleanliness is quite as important as proper feeding, but the exceptionally good record was not alone due to proper feeding and housing. Back of these was the well-bred flock—not all standard bred it is true, but all strong, vigorous hens from healthy stock. I think too little attention is paid to this matter on most farms.

It is impossible to give the net profits for the year from this flock as we had two other flocks and no separate account was kept of the feed consumed by each. The total amount paid for feed was $82.10, but this was for the three flocks and 224 young chickens raised the past year. The value of eggs produced by the flock of thirty-six was $106.95, or $24.85 over all expense. Add to this the value of the young stock produced and there is a very substantial profit left.

NAT. S. GREEN.

The freshness of eggs is limited to a few days. They may stay old a long time.

A West Virginia correspondent says: "In a choice I would take a three-year-old rooster before I would a yearling cockerel."

It isn't care that makes eggs hatch well, it is vigorous breed, and the know how, with a hen who will set, not a flirty pullet.

When building the poultry-house arrange it so it will be almost out of doors in the summer-time, and easily transformed into snug quarters for the winter.

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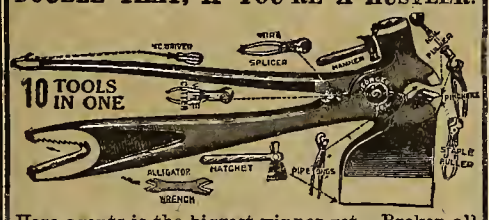

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Live Stock and Dairy

A Talk About Pigs

CERTAIN religious sects, and some physicians, tell us that all manner of diseases originate in the noxious habit of eating hog meat. Our old family doctor—gone to his lasting rest thirty years ago—told his patients that when the devils went into the swine in Biblical times and they ran down into the sea, it would have been a fine thing for the human race if they had been the last of that species of omnivora! But when the big slices of lean, country-cured, corn-fed ham are hissing in the skillet, and the gravy bubbling up a rich brown, or the sausage frying so tantalizingly that you can smell it half a mile down the pike, while the buckwheat-cake winks itself full of holes, what do we care what doctors say?

Once in my salad days (which phrase, I take it, signifies the joyous, unthinking hours of boyhood) my father bought two shotes. They were of the black, lank, bony breed, always hungry, and telling the world so in unmusical voices. In the pride of possession, I resolved to buy another pig. I was working out here and there at fifty cents per day, and a dollar then was bigger to me than the tire of a big Mogul engine. Out of the tobacco-sack of nickels and dimes I oozed out a dollar and a half, and a neighbor gave me a red sandy pig ten weeks old for it. Vanderbilt never gazed upon his first merchant vessel with half the pride I felt in that pig! I fed it carefully by itself, and at butchering-time it was so far ahead of either of the older shotes as to be away 'round the bend whistling for brakes!

Once at a Sunday-school picnic, I heard a young speaker point a moral something like this: In an orchard where a lot of hogs are turned to eat the apples, you will find that, after all have eaten their fill, there are one or two that will stop and look up to see where such fine food came from. The young man wanted his hearers, in the midst of daily life, to look up, and give thanks, too, to the place from whence "all blessings flow."

This brings me nicely to a little "anti-dote," as an old school-mate used to say. We raised a pair of large white hogs in our orchard, who got sharp enough to know which tree dropped the best apples, and they let the trees of Maiden's Blush strictly alone, and went on to the Baldwins, the Yeagers and the Rome Beauties. Now, whether they looked up in thankfulness or not I am not prepared to say; but somehow they caught on to the important fact that a pig on his hind legs just spanned the distance between the fruit-laden branches and the ground; and that a good shake would bring down plenty of food! They improved on the idea for fun, even when they did not care for fruit, and this led to discovery and imprisonment in the pen, whence they never emerged until ready to be hung, and tried post mortem.

People say, "a hog is a hog, and filth won't hurt him." This needs "that short and ugly word." Without discussing the principle of the matter, let me tell you my modus operandi, or how to get busy. First, you want to make Mr. Pig grow as big a frame as he can. After you have the clothes-rack you can paste on all the fat you please, but if you go and load on all the fat first, how are you going to get good framework? Now years ago, when I could sing, "I'm the shepherd of the valley, tra la, la, la, la" to gamboling lambs, I wrote to a man-who-knows, and he told me how to do this, and I picked up lots more pointers working for a man who had slues of hogs. And this is just about the extract of all hog science: Keep the pen clean, warm and dry, in season and out of season, and all the time.

Let the pig have plenty of green grass or clover and a little patch to exercise in. After weaning, give a pint of white or red middlings thoroughly scalded and stirred up, and cooled with the dish-water from last meal—but not if there is soap or washing-powder in the water. This amount is for two pigs. Give it three times per day, but give it regularly as clock-work, for there is more in this than you think. Where you have just a few pigs, see that they have a leaf-strewn box to sleep in, and are free from lice. Boil little potatoes until a fork will pass through easily, then drain dry, and let steam drier yet. Mash them and mix with your slop at each feed, say a dozen to each pig; and they will grow faster than belief. A few nubbins of corn charred on the cob, given every few days, will keep away cholera, some say, and at least it will help their digestion. Chopped apples, raw pumpkins, and the like, will help them grow.

"Variety is the very spice of life," but feed nothing sour or unclean; and nothing that the pigs might get choked on.

That's the way I feed pigs to make them grow. I might tell you how to put fat on them cheaply, but there isn't room for that, this time at least. But I want to hit you all a last swat, and it is this—no matter what you have to pay for pigs, cleanly-fed, home-grown hogs will furnish you with cleaner, more healthy meat than that which you buy and pay nineteen cents a pound for, as we had to last week, in this part of Maryland. And almost every farmer wastes enough potatoes "too small to pick up" (Eh!), cabbage-leaves, onion-tops, dish-water, etc., to feed four hogs for luxurious family eating—just as many as I have in my pen now.

CLIFFORD E. DAVIS.

Shoe-Boils Again

IN COMMENT upon Mr. Buffum's answer to a New York subscriber's inquiry, a few issues ago, concerning shoe-boils, the writer may say that in four cases in his experience at least we found that allowing the horse to go barefooted was not an effective precaution. Our two worst cases came upon a horse that had not been shod for three years. We had the shoe-boils cut out by a competent veterinarian, and afterward sold the horse thoroughly sound. After injecting cocaine, the surgeon slit the cyst from top to bottom, then cut out the sides, taking off the back wall of the swelling as well as the front. The wound remaining was about seven inches in diameter, but after we had kept the horse's head tied up for a month, little of the wound remained.

Shoe-boils appear at great size very suddenly; in fact, sometimes the size of a large cocoanut when first observed. In a case of this kind, if the horse be young and salable, my own recommendation would be to tie up his head so he may not lie down night or day, and apply a standard blister, repeating as often as necessary. This fall we reduced a shoe-boil on a good horse by this method and sold him some time since.

In case of old work-horses it is often advisable to overlook such blemishes; but they may be much reduced by puncturing the cyst and injecting tincture of iodine. Some have reduced the cyst by simply slitting it open with a clean, sterilized knife. The pocket of serum is not located deep, but quite near the skin. GEO. P. WILLIAMS.

The fellow who keeps fourteen different sorts of dogs is a dog-gone poor neighbor to the sheep-owner.

It may keep a horse's hair slick to blanket him while he is in his stall, removing the blanket when he is taken out for a drive, but such a plan will detract from his general health. The change from warmth to chill is too sudden.

While you have plenty of time during the winter, keep a close watch of every cow in the dairy barn and see if the income from her dairy products will pay for her feed and leave you a reasonable profit on your time and labor.

Openings for ventilation in live-stock or poultry buildings should be regulated according to the prevailing weather. Ventilation is necessary, but it is possible to make a fad of it and chill the stock, in cold or windy times, so much that the good effects of pure air are offset. Even a good thing like pure air needs to be handled with care.

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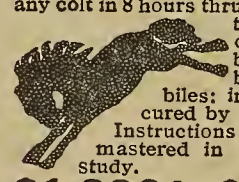

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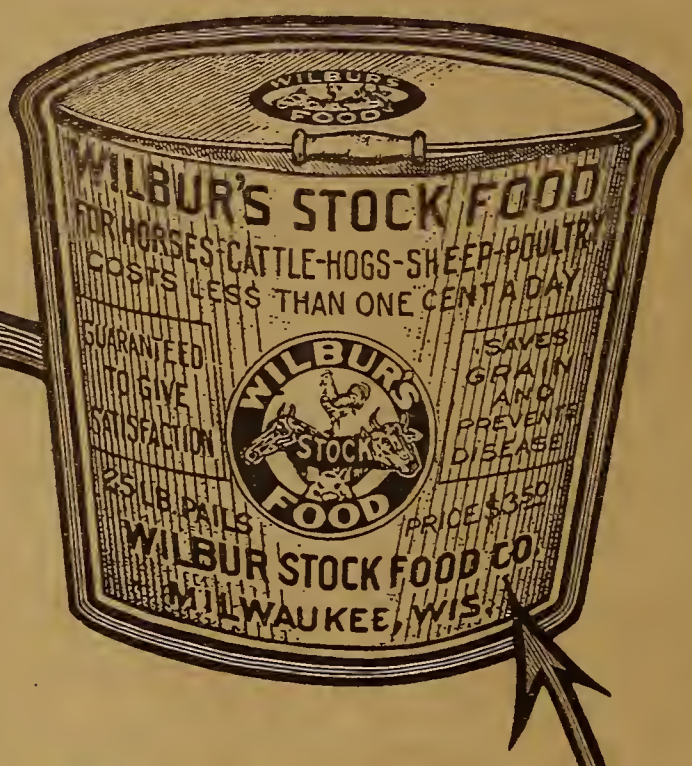

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Live Stock and Dairy

How Some Market-Toppers Were Fed

PERHAPS the readers of FARM AND FIRESIDE would like to know how we bought, fed and handled the sheep that topped the market, International week.

Early last spring we decided to feed a good band of sheep in the summer and fall. So when we put in the grain in most of the fields, we sowed three pounds of rape-seed to the acre. It proved to be a good season for the rape in our section of South Dakota, for when the grain was bound there was a good stand, and a rain after the shocking gave the rape a fine start.

When we laid the corn by we also sowed rape just ahead of the cultivators, and again rain came to start the rape in good season. So we were prepared to start the sheep well. In addition to the stubble-fields, we had a forty-acre wild pasture with a fine grove and a running spring. This we carefully saved for the sheep.

In the middle of July, when the range sheep began to come to the Omaha market in great numbers, we wrote to one of the large stock-buying firms and had them get us two double-deck loads of thin yearling wethers of good enough quality to top the Chicago market when we got them well fatted. It was the first day of August that they wrote us that they had filled our order and on the third of August the sheep arrived in Hartford. They were as fine a bunch of thin growing yearlings as one ever sees—five hundred and fifty-one of them and not a poor one in the bunch. They were of quite a pronounced Merino type, although not wrinkly, and they probably came from a Southwest range.

They were just the kind to make the best of gains if properly cared for. They were very hungry, so we let them take their time and pick along the roadsides all the way home. We only made a mile an hour, but when we reached home the sheep were full and ready for a good drink and a rest. As I opened the big gate into our bottom pasture and watched the sheep scatter out over the bottom-land and down to the clear little stream that runs over the granite and gravel, and saw them drink their fill, I thought, "When God made this farm it was for a sheep-farm." The clear cold water, the rich grass of the bottom-land and the big trees beside the stream make it a sheep's paradise. All the wethers soon drank, and as the sun had already set they bunched and in a short time all lay down, thus proving that they had been herded on the range.

Starting Them Easy

The next day one of us took them out early in the morning and herded them all day in a stubble-field that had no rape in it. In the evening we put them back in the bottom-land pasture to drink. After a few days of thus herding them on stubble they had all the weeds out of it. Then we put them in that forty-acre pasture on which there had not been an animal all summer. How they did enjoy the rich feed. There had been cattle in the pasture for years before and it was weedy. The sheep preferred these weeds to the grass, but when the weeds were pretty well gone they went after the grass. They slept in the grove nights. There was a running spring in the pasture which we piped to a long trough, and the sheep soon learned where the water was. When they had eaten that pasture down pretty close, we herded them every day in the stubble-fields till about the twentieth of September, when we turned them into the corn-field, from which we had cut the corn for the silo. There was rape in the field and a good many ears of corn which the binder had knocked off. This was the first corn the sheep got. We now turned a flock of two hundred old ewes in with the wethers, for the latter had never seen corn and had never learned to eat it. But the ewes knew and in a few days all were eating corn. When the sheep had cleaned up the corn and rape from that field we turned them into another corn-field where the rape was high and where there was plenty of corn.

Pushing Them to a Finish

At first we left them in there only a half hour morning and afternoon. After about three days, we left them in an hour at a time, and in a week's time they were running in the corn-field at will. The gate was continually open between the corn-field and pasture, and the only care now was to see that every sheep got into the corn-field in the early morning and that all got to the corral at night.

They ran this way till the seventh of November. Before that, as soon as we saw the corn was getting pretty well cleaned up, we put a team on an iron drag and dragged down the stalks in order that the ears above the reach of the sheep would be knocked down. When we took the sheep out of this field, there was not an ear of corn left in it.

We turned them into a new corn-field the morning of the seventh of November. Beside this field was a clover-field, also a stubble-field with a fine stand of rape in it. The new rape, the clover and corn of a new field put the finishing flesh on them, and when the corn in this field was eaten they were ready to ship. They were sold on the Chicago market November 28th for $5.75, which was twenty-five cents a hundred above any sales for some two weeks before and after.

The gross amount received in Chicago for those five hundred and forty yearlings (eleven had died or been killed by dogs) was $3,046.49.

Here is the account of those sheep:

551 yearlings, cost in Omaha	$2,103.50
Freight to Hartford	82.70
Feed-bill on road	26.00
Commission	20.00
Total cost at Hartford	$2,232.20
Freight and switching in shipping to Chicago	$ 175.20
Yardage	27.00
Feed-bill in Chicago	36.25
Total cost of marketing	$ 238.45
Cost in Hartford	2,232.20
Total cost	$2,470.65
Gross returns	$3,046.49
Total cost	2,470.65
Profit	$ 575.84

PAUL H. BROWN.

Live Stock and Dairy

Pig-Time Precautions

Sows that carry a reasonable amount of flesh evenly laid on are usually the ones that do best with their litters. They will be quiet longer than the lean sows that are prompted by hunger to be up and looking for something to eat. Much of the danger that comes to the pigs at birth will be eliminated if the sows are kind and tractable, allowing all necessary help at farrowing-time.

The quality of feed largely governs the amount of flesh that the sow may safely carry. The sow that has been fed a ration of grasses, forage and small amounts of grain foods may carry a large amount of flesh and still be safe to use for breeding.

Feeding during the period of pregnancy should be liberal. The sow's condition should be kept up. It is a mistake to half starve pregnant sows, thinking that the reproductive organs are peculiarly liable to be transformed into masses of fat at the first sign of an appearance of fat upon her back and ribs. The use of the reproductive organs creates a demand of an unusual nature upon the system that must be met in the same way as demands due to other causes—such as growth, exercise, exposure to cold—by providing liberal quantities of the right kind of foods. No sow can bring a litter of thrifty, well-developed pigs unless she is fed liberal quantities of the right kinds of food during pregnancy. Given plenty of nourishing foods, abundance of bulk and succulence and pure air and exercise, there will be little danger of overfeeding her.

Exercise and fresh air exert a counteracting influence upon heavy feeding. Sows that are fed liberally must have exercise. Winter is a difficult time to handle brood sows and special attention should be given to maintaining them in a thrifty and vigorous condition, because of the scarcity of bulky and succulent foods and the lack of exercise. Root crops are an excellent substitute for forage crops; however, care must be exercised in feeding them to avoid causing a profuse action of the bowels. Clover and alfalfa cut or ground and mixed with the grain feed in the slop afford both succulence and bulk and has a very stimulating effect upon the bowels and whole digestive system.

By keeping the sows separated in lots of from ten to twenty, it is safe to allow them to run together up to within two or three weeks prior to farrowing, then each sow should be removed to the farrowing-house and given special attention and food, as the occasion may need. This gives her time to become familiar with the change and acquainted with the herdsman. (A corn-cob acquaintance as many term it.) It pays to be on friendly terms with the sows at farrowing-time and means the saving of many pigs.

Sows should be given plenty of straw or other material to make dry and clean nests, but not enough to make deep nests and holes for the pigs to crawl in and get tangled up and lost or crushed by the sow. Fenders should be placed around the sides and ends of the pen, about eight inches from the floor, to keep the sow from lying on the pigs or crowding them against the sides of the pen.

Experience, judgment and a knowledge of the disposition of the sows afford the only guide for a man to follow in handling his sows during the farrowing period. If the weather is cold, it is many times necessary to stay with the sow and take the pigs as fast as they come and place them in a box or basket and see that each one is dry and gets its first feed and its right place at the dinner-table. For the first few days after farrowing the sow should be fed very sparingly. After this her food should be increased gradually until she is being fed all that she can digest and assimilate.

When they are about three weeks old the pigs will begin to look about for supplementary foods by going to the trough with their dam and nipping bits of grass or forage. At this period it is desirable that we fix a creep so that they can come into the alleyway and feed them a little sweet skim-milk and wheat-middlings three or four times a day. In this way they will gradually wean themselves and by the time they are removed from the sow they will not miss her and they will suffer no set-back in condition.

When weaning a litter it is an excellent practice to leave two or three of the smaller pigs with the sow for a few days after the others are taken away and give them a chance to catch up with the other members of the litter. This is alike beneficial to both the sow and the pigs, for she gradually becomes dry without danger of leaving her with a caked udder.

One of the hardest problems confronting the herdsman is to keep the young pigs free from indigestion and scours. A litter of pigs once affected by this derangement seldom make as good development as those gaining without a break. This complaint comes largely from unsanitary conditions, and for that reason it is judicious to clean out and, if possible, disinfect the nests and pens at least once a week and oftener when many pigs are kept in the pen all the time.

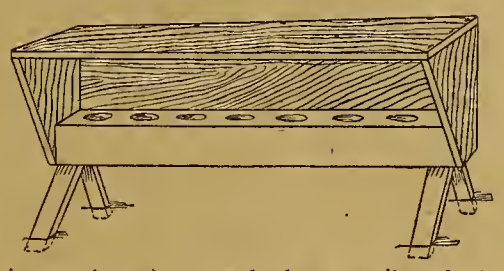
All sour swill must be kept away from the sows while they are nourishing young.

Wheat-middlings is an excellent grain food for brood sows and young pigs, although a little bran may be used to lighten up a little during the first few days, and some digester tankage to add to the nutritive value during the time the pigs are pulling down all the milk the sow is capable of giving. The feeder must use his own judgment as to the condition of the sow and her pigs and plan his methods of feeding accordingly.

No man can tell just how much care and food a sow and her pigs will require. Constant attention alone will decide the question. The best of care and plenty of food during this critical period has an influence upon the development of the pigs that can be noticed until they are full grown. The man who gets the pigs well started has solved three fourths of the problem of growing profitable hogs. W. Milton Kelly.

Anti-Grub Device

The way to prevent grub in the head, which so often afflicts sheep, is to grease the noses of the sheep with tar or tar and turpentine. This repels the small gad-fly which otherwise will deposit its "nits" (living embryos) around the nostrils of the sheep, whence the nits crawl up into the nose passages and develop into good-sized grubs. The customary way to get the grease on the sheep's noses is to bore two-inch holes in a log, put salt in the holes and smear tar around them so that the sheep in going after the salt smears its nose.



I have a device that I think is an improvement on the above.

A four-by-four scantling is used, with two-inch auger-holes bored every eight inches along its length, deep enough so that the point of the bit just goes through. Then no water will stand in the holes, even if rain should get in under the roof. At the ends of the scantling nail boards of the shape diagramed and put on a back and top to keep the rain off. This whole device is set up on legs driven into the ground.

To each quart of salt I add a couple of large spoonfuls of spirits of turpentine and also smear tar around the holes. The sheep do not object to these "dopes," but the flies do, and Mrs. Fly can deposit her eggs in a stump somewhere. Alvah Blackburn.

When a Cow Laps Water

A Pennsylvania subscriber is worried about a cow which does not drink naturally, but laps up the water. Outside of the inconvenience caused, I do not know that there will follow any detrimental results. As a rule cows gain the habit of lapping water by having free access to it at all times. Especially is this true in the winter when the water is cold.

There are two methods that often break cows of this habit. The first is to heat the water to a temperature of seventy-five or eighty degrees before giving it. The other is to water the cow only when she is extremely thirsty, taking the water away when she begins lapping it.

Hugh G. Van Pelt.

An Odd and Hopeless Case

Cribbing, among cattle, is practically an unknown trouble. Yet one such case is described by a Pennsylvania subscriber, whose two-year-old heifer is "an expert cribber," eats little and is very poor. In over thirty years' practice of veterinary medicine and surgery I have not come across more than three or four such cases. There is no known cure for it. I candidly think that the very best thing to do with such an animal is to slaughter her, if only for her hide and for chicken-meat. It may be that something would be found in her stomach—some disease or foreign substance which caused the trouble. C. D. Smead.

Be sure that you furnish proper quarters for the farrowing sow. You can't afford to lose a single one of the little "squealers" this season.

Pregnant ewes had about as well be turned out among wolves as to be left where the other stock bump and kick them around, as this is one cause of weak, paralyzed or dead lambs at lambing-time.

Don't allow that old reprobate of a cow to fool you by giving a profuse flow of milk for five or six months, then going dry. It's the cow that gives a reasonable amount of milk from seven to nine months in the year, that you may safely bank on as a profitable member of your dairy herd.

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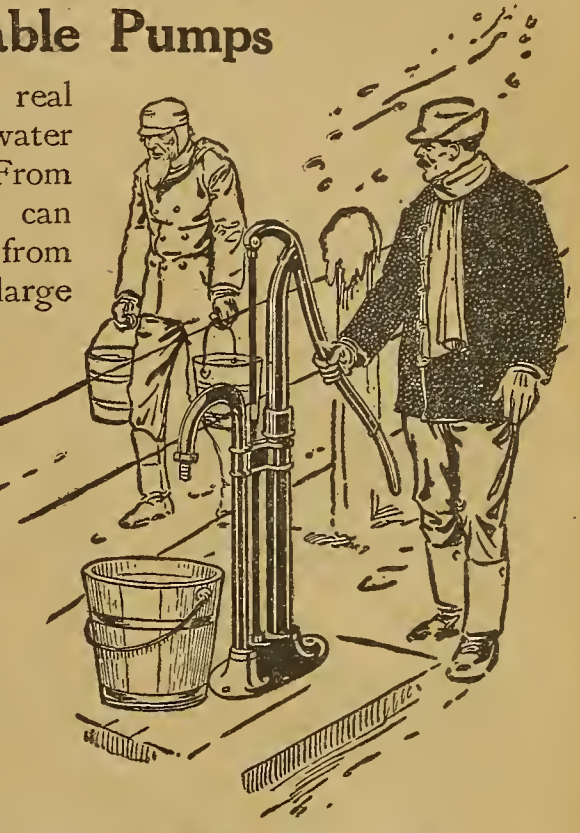
"For Every Service"

Don't go to the well—be up to date and pump the water to your house and barn.

Goulds Reliable Pumps

bring to the farm one real advantage of the city—water where it is needed. From our complete line we can meet any requirement from the cistern pump to the large power pump for general water supply, including lift and force pumps, thresher pumps, hydraulic rams, pneumatic water supply pumps, rotary, centrifugal and irrigation pumps.



The name Goulds on every one marks the genuine. Don't buy any pump until you have *read our free booklet—*

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We want you to select the pump best adapted to your conditions. This book is a mine of valuable information on the subject. **Send for it.**

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Another machine lock-stitches the heavy outer sole to this welt around the edge of the shoe. This seam too is entirely outside.

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A printed list furnishes all these 500 names of shoes. Some are sold by leading retailers in every town. But get this list before you buy another pair of shoes. Let it be your guide.

Your name and address across this advertisement brings the list and two other interesting booklets describing the sixty machines and telling "The Secret of The Shoe"—all without cost.

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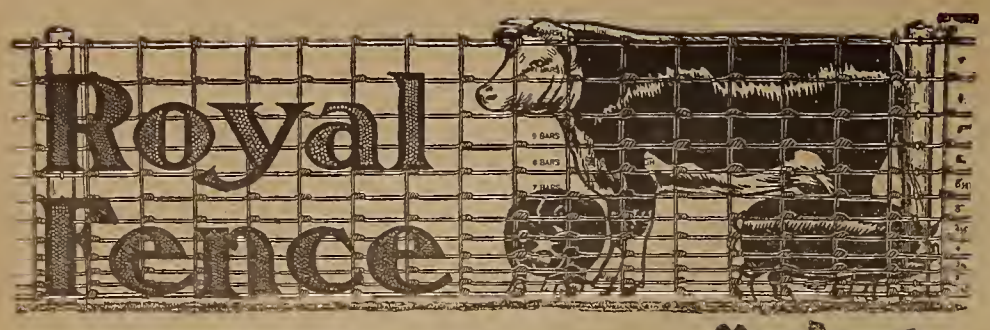

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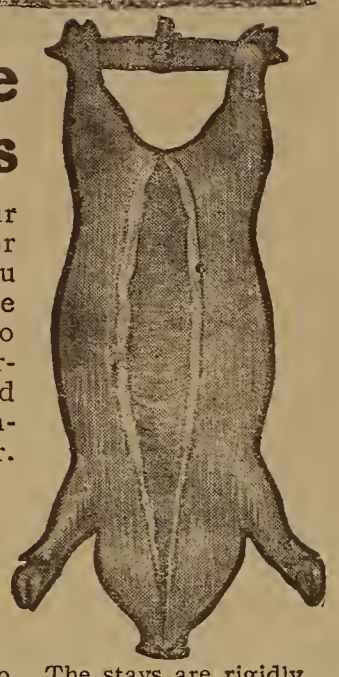

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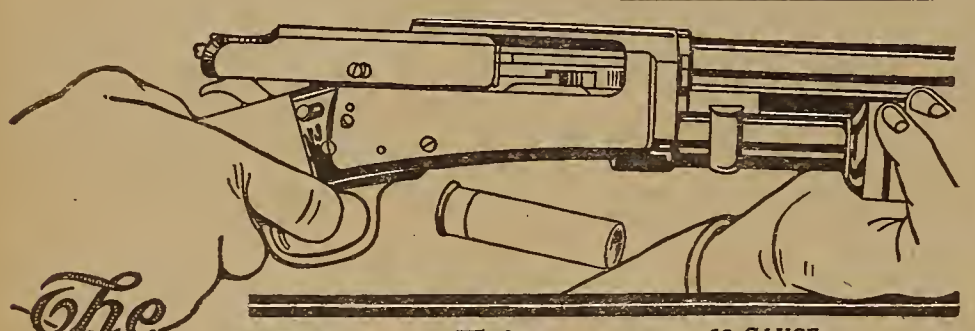

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The mechanism is strong, simple, wear-resisting. The double extractors pull any shell instantly; two special safety devices prevent accidental discharge while action is unlocked, and an automatic recoil block makes hang fires harmless. All Marlins are strongly made, finely balanced, accurate, hard hitting guns, and are the quickest and easiest to take down and clean. Illustration shows Model 24, grade "A", 12 gauge; it has all the features that make for a perfect gun.

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Page 53—Auto Seat Buggy—An unusual Buggy Bargain. Seat and general arrangement are exclusive. We save you about $30 by selling direct from factory.

Live Stock and Dairy

Silos for Small Farms

WOULD it pay the owner of a small farm—say forty acres, or less—to put up a silo for the disposal of his limited corn crop? Mr. Abram Phillips, Angola, Indiana, has figured out that the silo is a profitable investment even on the small farm. Here is his interesting letter:

Many owners of large farms in this county (Steuben, Indiana) are building silos preparatory to feeding dairy cows or fattening steers for market. Those who built last year made a success feeding silage, and some have even added a second silo this year. This seems to give other big farm-owners the silo fever, and silos and silage feeding are the leading topics among them to-day.

But why do we so seldom see the silo recommended for the small twenty, thirty or forty acre farm? For our own benefit we have made a thorough investigation of silage feeding and have reached this conclusion, that it will pay the owner of a small farm to build a silo, the size, of course, corresponding to the number of cattle he wishes to feed.

We own forty acres of good tillable land, all under cultivation except eight acres of new ground which is free from stumps, but has been kept in sod for pasture, as it never freezes out like clover pasture and can always be depended upon when other pasture fails.

Now if this eight acres is planted to corn next spring and we get a good yield, we can sell the corn and fodder from four acres, which will pay for the silo and have the other four acres with which to fill it; and that corn as silage will feed farther than the whole eight acres harvested in the usual way.

Four acres of good corn, I figure, will fill a silo ten feet in diameter by eighteen feet deep, holding about twenty-four tons, which will run about seventy bushels per ton, or sixteen hundred and eighty bushels in all. An ordinary cow or steer cannot eat more than one bushel at a feeding, two bushels per day, seven hundred and thirty bushels in a year. Hence, sixteen hundred and thirty bushels will feed two dairy cows or steers a year and there will be some left; or, if supplemented by clover-hay, that amount of silage may be made to

Brother Horse Entertains a Large Party of Friends

feed three head of cattle. Of course, these cattle would get some grain besides the silage, or silage plus hay.

The cattle can be kept in a lot for exercise and fed from the silo while all the rest of the farm is under cultivation. A few shotes, with their noses rung, allowed the run of the lot and feeding-barn, will work over the droppings and clean up all bits of silage scattered by the cattle or feeder. The shotes will need other feed only once a day and will go ahead very well on this diet.

A silo of this size can be filled in half a day providing the corn is cut the day before, so there will be no delay in getting it to the machine. The cost of filling a small silo is ten dollars for the silage-cutter, while fifteen dollars ought to pay for the cutting of the corn and hauling it to the machine, which is about as cheap as the crop could be cared for in the ordinary way or by shredding.

Even if a farmer owned only fifteen or twenty acres he could make a silo pay, for if he wished to practise crop rotation he might rent land of some neighbor to plant to corn.

One difficulty with the small-farm silo immediately suggests itself. Unless a layer about two inches thick is removed all over the surface of the silage every day, there is likely to be a serious loss from molding. Prof. W. A. Henry, in "Feeds and Feeding," says: "Two inches in depth of ordinary corn-silage weighs about three pounds per surface square foot near the top of the silo and ten pounds near the bottom, averaging about seven and one half pounds. On this basis the proper feeding area may be placed at about five square feet per cow daily." Would the man who feeds only a few cows, as Mr. Phillips plans, be able to use up enough silage each day to keep ahead of the mold?

Have any of our readers had experience with the small silo? If so, we would like to hear what they have learned. New possibilities of the silo are being revealed each day, and there is no one who knows quite everything about it. If you have first-hand experience-knowledge of the small silo, tell us!

EDITOR.

YOUNG'S "UNO" SELF-CONFORMING HORSE COLLARS

The only collar that fits itself perfectly to your horse's shoulder. You will be through with shoulder galls, through with losing time and money by having horses laid up when most needed—through with buying collars so often, if you insist on "UNO" collars.

"UNO" collars have a heavy facing of Young's Uno self-conforming mixture (a yielding, pliable facing that fits itself to the shoulder), backed by selected long rye straw—have double strength throats giving double strength where common collars are weak—heavy, smooth sole leather tops—solid serviceable rims—all parts made of pure bark tanned leather cut from best part of the hide—all shapes and sizes, $3.75 to $4.75 each.

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Send us the name of a harness dealer who *does not* handle "UNO" Horse Collars, and we will send you a beautiful pair of Nickle Embossed Bridle Rosettes FREE.

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Cattle or Horse hide, Calf, Dog, Deer, or any kind of skin with hair or fur on. We make them soft, light, odorless, wind, moth and water proof, and make them into coats (for men or women) robes, rugs or gloves when so ordered.

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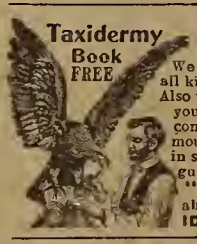

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Edwards Interlocking "Reo" Steel Shingles

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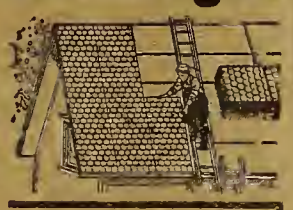

They are stamped of best Bessemer Steel 5 to 12 feet long and 24 inches wide. They are made either in plain steel, painted on both sides, or heavily galvanized. They will not rust nor corrode. The interlocking feature covers the nails and provides for expansion or contraction.

Put Them On Yourself

Anyone can lay these shingles on any roof. Just a hammer and a few nails is all you need.

Edwards Interlocking Reo Steel Shingles will save money for you. They will last longer than wood-shingle or composition roofs and give you absolute protection against fire and lightning. We give a $10,000 guarantee bond that no roof covered with Reo Steel Shingles will be destroyed by lightning.

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Being the largest manufacturers of every kind of iron and steel roofing material, we are in a position to quote you lowest possible manufacturer-to-user prices.

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are made by farmers in the Southeastern States on the cheapest, best located lands in America, in regions most healthful, climate most agreeable. This is shown by actual returns. Farmers have reported wheat yields of 40 bushels per acre, corn 100 to 150, six tons alfalfa, 200 to 300 bushels potatoes, profits of $100 to $400 on truck, up to $900 on fruit, make beef and pork at 3 to 4 cents a pound.

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Write Right NOW

J. A. SPENCER
Dwight, Illinois

Live Stock and Dairy

When Care Saves Sheep Profits

When lambs are expected provide warm quarters for the ewes, deeply bedded with straw. Allow no one, or any dog, to frighten the sheep at any time now, for a sudden fright is likely to either cause premature birth or at least to have bad effects on both ewe and offspring.

Go to the lambing-house every hour until bedtime, and be ready to assist any ewe that needs it, and to attend to the youngsters. If possible, it is a good plan to sleep near the sheep-yard and look in on them several times during the night. As soon as a lamb is dropped, wrap the tiny bunch of bones in warmed cloths until dry and well warmed, then unwrap and nestle it in the straw. The mother will do the rest. Within six hours see that it takes nourishment from the ewe. This takes patience and often some teaching, but it pays to persist.

As soon as the ewe has dropped the lamb or two, give her a bucket of milk-warm water, for the act of lambing will leave her very thirsty. The drink will soothe her nerves, quiet her anxiety, and she will give down her milk freely and chew her cud contentedly. Cold water would be very hurtful, if not fatal, at this time.

When lambs are due separate such ewes from the rest of the flock to prevent injury, and keep them in the fold where you can watch them every hour. It pays to let other things wait, rather than be careless now, and see all your year's profit fall and die. I have known sheep-owners to turn pregnant ewes out in the pasture and lose three to five lambs that were born away out in the field, were chilled and died of neglect.

Always speak low and gently to the ewe at this time, for a sheep knows by your voice if you are angry or joyous, and it is the singing shepherd they love.

If you get the lamb safely over the first forty hours, it is likely to grow all right after that, but warmth, care and attention must be there when needed. If three are born to one ewe, as I have had happen, you must raise one with nipple and bottle, or else get another ewe that has lost her own lamb to adopt the odd triplet. C. E. Davis.

About Rickets

Rickets—or "progressive rhacitis," as veterinarians call it—is a disease, the cause of which is not fully determined. It is, however, most common in regions where the soil is deficient in lime salts, and in cases where the mare has been fed corn largely when in foal.

A North Dakota subscriber describes a case. A five-months-old colt of his is stiff through its entire body—is unable to get up at times. It has some swelling of the legs.

This disease does not always, as many suppose, manifest itself soon after the birth of the colt or other young animal, especially when it takes on the progressive form of the disease. There is no known specific for it. However, many recover when fed liberally on oats.

Personally I have had best success by giving twice daily, morning and night, to foals the age of this one, two-dram doses of the saturated solution of phosphorus. Also, once per day, at noon, give Hematic-Hypophosphites. These can both be given in ground oats. Also give a tablespoonful every morning of a mixture of common salt, eight ounces; powdered charcoal, ten ounces. Give colts having this disease the best of care and nursing, and don't expect immediate cures. It will take a long time to get rid of it, if it is cured at all.

C. D. Smead.

Fooling the Balker

When a horse balks do not whip, scold or quarrel with it. "Speak gently." Be patient. Take time. Go to the bits. Fasten a strap around one front leg, between the hoof and fetlock, and tie the foot up to the hames, or hold it up, as the case may be, compelling the horse to stand on three legs while it rests (?). Resting will very soon become more irksome than going. But with kindly "whoas" and the continued holding by the bit, compel the horse to stand until thoroughly anxious to go, which will not be long, when the foot should be let down and the animal allowed to go. Repeat the process as often as the occasion demands, increasing rather than diminishing the time of the restraint. J. R. Clark.

D. B. L., Dade City, Florida, asks as to the largest wool clip recorded for a single sheep, and especially if a hundred pounds have ever been scored. We think not. There are some records of just under fifty pounds, which shrank half in washing. The Australian merinoes are supposed to be the heaviest yielders; but New England has produced some splendid animals of this breed.

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Live Stock and Dairy

Pure-Breds, Cross-Breds and Mongrels

I was very much interested in Mr. Corbin's experience with pure-bred and cross-bred hogs, published a little while ago in Farm and Fireside. It seems that a trial of pure-breds has convinced him that they are most economical for the man who grows hogs for the market. There seems to be a contrary opinion prevailing among many farmers that pure-bred animals are for the fancy breeder rather than for the man who grows stock for the market. I have heard stock-growers assert that pure-bred animals have been bred for fancy points and pampered until they have lost vitality. They seem to think that the breeder is working for fine points, rather than to produce animals that will grow into the best pork in the least time.

I am often asked whether a cross between a Berkshire and a Poland-China, or some other cross, would not be better than a pure-bred of either. I have had experience with grades of several different breeds, crosses, mongrels and also pure-breds. My experience is that the pure-bred hog is a more uniform breeder and a more practical pork-producer than any hog of mixed blood.

For the past ten years I have kept nothing but pure-bred Chester Whites. It is sometimes said that all white hogs are especially liable to skin diseases—also that the Chester White is a very good hog to keep in the pen, but is lazy and shiftless and does not thrive unless especially well cared for. I have found these to be imaginary faults born of prejudice. One hog-grower who had the impression that the Chester White was a shiftless hog bought one of me and a year or two afterward told me that he had turned this pig out in the woodland with his grade Poland-China shotes, and that the Chester White outgrew any of them. Another gave me a similar experience. I am not an enthusiast who can see no good points in other breeds beside my favorite, but think that, as a rule, the hog-grower can do better with the breed which he likes the best.

Pure-Breds Not Simply Ornamental

All of the standard-bred hogs are good practical pork-producers. The main point to consider is uniformity. A uniform bunch of hogs will feed better together than a mongrel lot. They make a much better showing and will bring a better price on account of their uniform appearance. We sacrifice uniformity when we cross-breed. Very often cross-breds are good pork-producers, but in crosses the prepotency of both breeds is destroyed and the cross-bred animals are not fit for breeding stock. The man who produces cross-bred animals must buy all his breeding stock, if he wants to keep up the quality of his berd.

As to the notion that pure-breds are bred for fancy points, not for utility, there is plenty of contrary evidence. Let the advocates of cross-breds study the standard of excellence adopted by the various associations of breeders of pure-bred hogs. There is a similarity in all these standards. All give prominence to the well-developed chest, shoulders and hams. All attach importance to the strong, well-shaped back. The ear and tail, while they are considered, do not count many points in the "scoring" of the hog. Really, the standard of any of the pure breeds just describes a good hog.

A hog must of necessity have health and constitution to develop such a well-formed body. There is an impression with some that good treatment tends to weaken the constitution of a hog. The facts are that good treatment, without pampering, strengthens the animal.

A. J. Legg.

A Pipe-Dream That is Not All Smoke

[continued from page 4]

of land value taxation enabled the Fairbope Single Tax Colony to acquire twenty-two hundred of the four thousand acres which it now owns. The remainder of the land was previously obtained through contributions from other single taxers.

Our homeseeker begins in the fall, we will say, and has most, if not all, of his land rough-cleared by spring. By that, I mean, he has girdled and thus deadened the few large pines and has cut and burned the undergrowth and grubbed out some of the smaller stumps. Then, using a strong road-grading plow, drawn preferably by an ox-team, which he can hire for the job, he plows the land, going around the stumps and standing trees as best he can, and he picks up and burns the roots which the plow brings to the surface. He disks it and harrows and drags it and in the spring he plants it all in velvet beans. The velvet bean will grow just as well on new land as on old land.

He sows the beans in rows three and a half feet apart and puts up a hog-proof fence, making the posts, probably, from timber grown on his land. The beans should be cultivated to some extent, but being on new land the weeds will not be very troublesome. The period during which velvet beans can be planted with advantage extends from the middle of April to the first of July; hence he has plenty of time in which to get in his crop. Long before November his land will be covered with a dense mass of green leaves and vines, three or four feet in depth, and the nitrogen-storing nodules in the soil will continue to increase until further growth is checked by frosty weather.

If he has cattle or hogs to turn upon the foliage, so much the better. They will thrive and fatten upon it all winter. In the meantime, and before the following spring, he will, with perhaps some assistance, have burned out the stumps and thoroughly cleared half of his land and gotten it into proper condition for a cultivated crop. On these twenty acres he plants cotton and corn, putting in, say, fifteen acres of corn and five acres of cotton. The soil having been well stored with humus and nitrogen by means of the velvet bean, it needs no other commercial fertilizer than one containing phosphoric acid and potash. This should be applied at the rate of three dollars' worth to the acre. If he cultivates the crop properly in accordance with instructions furnished by the Agricultural Department or the nearest experiment station, he will be almost certain of not less than fifty bushels of shelled corn and a bale of cotton to the acre.

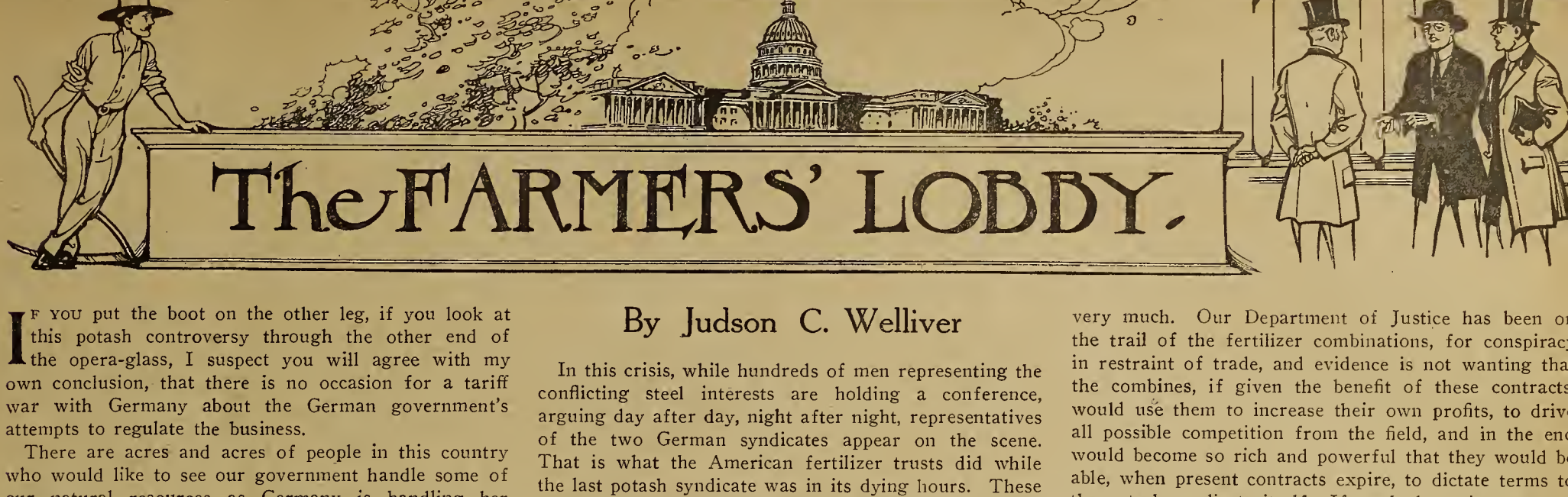
He will plant the other twenty acres again in velvet beans or cow-peas while working his cotton and corn crop and thus put additional richness into the soil for the benefit of the cotton and corn to be raised on this half the following year. Corn here is seldom worth less than eighty cents and it usually brings a dollar a bushel. Cotton is now selling for sixty-five dollars a bale, to which must be added ten dollars a bale more for the seed. It is to be hoped, however, that our man will not be so foolish as to fail to return to the soil all the cotton-seed raised on it, or the equivalent in cotton-seed meal.

In this way an able-bodied and industrious man can almost certainly realize a comfortable cash income from his second year's work beside adding much to the value of his farm. Then, by adopting the rule of raising his cotton and corn on land in velvet beans or cow-peas the preceding year, and of also sowing beans or cow-peas in the corn-rows as described in my last letter, his soil will steadily increase in fertility, and his income grow every year.

I explained this method of raising crops to a farmer the other day and he said, "Well, that means giving two years to a corn or cotton crop, one year to get the soil ready and the other to grow the crop, with no income from the land every other year." That does not necessarily follow. One can always make a direct profit on his leguminous crops by using them either for pasturage or hay or silage. Cow-pea hay sells here readily at twenty dollars a ton and there is an inexhaustible demand for it in Mobile. Since much of the nitrogen which velvet beans and cow-peas bring to the soil is deposited in the nodules beneath the surface, the removal of the foliage above does not greatly detract from the beneficial effect of these legumes. It simply lessens the amount of humus which the soil would otherwise receive from plowing the vines under.

Fuel here is free. People drive into the woods and gather up the fallen timber wherever they please and no one objects. Lumber is cheap and, owing to the mildness of the climate, shelter and clothing hardly amount to half of what they would cost a pioneer on the prairies of the North.

What I have been talking about is no fairy tale. The experience of Mr. White, already detailed, and that of others whom we know of, coupled with our own observations, satisfies us that this dream can be realized in actual practice.



The FARMERS' LOBBY.

By Judson C. Welliver

IF YOU put the boot on the other leg, if you look at this potash controversy through the other end of the opera-glass, I suspect you will agree with my own conclusion, that there is no occasion for a tariff war with Germany about the German government's attempts to regulate the business.

There are acres and acres of people in this country who would like to see our government handle some of our natural resources as Germany is handling her potash. I am one of them. I am willing to opine, even, that if we can get the dust settled, and give the American people a clear view of this case, it may present to them an object lesson in efficient conservation that will be worth while.

Commercially and otherwise, our German friends are great bluffers. But they don't hold the cards to justify a commercial war with the United States, and they will not have one unless somebody on this side gets unduly excited over the representations of special interests.

Let's go back to the beginning for a survey of this situation. Potash was discovered in great deposits in connection with salt mines in Hanover and the Hartz Mountain region of Germany, some thirty years ago. Experiments proved it a great fertilizer, and soon a huge demand was created for it.

The Germans conceived that it would be well not to let the deposits be exhausted in haste; to prevent waste and recklessness. If we had had a like idea about our forests a generation ago, it would have helped some.

Some German Conservation

UNRESTRICTED competition threatened such waste, and some German states bought potash-mines in order to "get their hooks" into the business and secure a voice in its conduct. Before condemning the Germans for doing that, it is well to consider our forest reserves, our withdrawals of coal and phosphate lands, which are analogous.

To concentrate management, unify methods and lower expenses, the Germans organized the "Kali Syndikat," in which the government and the private mines are pooled. But instead of having an immensely watered capital—like, for instance, our steel trust—it has a nominal capital. Instead of selling potash abroad cheaper than at home—again like the steel trust—it does nothing of the sort. The man accustomed to bellowing out a protest against steel rails selling abroad cheaper than at home can hardly object to that. Suppose, instead of having merely the greatest steel-producing industry on earth, we absolutely monopolized steel. Suppose that we were the greatest users of it, as Germany is of potash; and that Germany was the second greatest user, as we are of potash.

Then suppose that two huge trusts were formed in Germany, trying desperately to monopolize the right to buy steel from the United States and to control the German market. One of them buys a lot of iron-mines and steel-mills in the United States, in order to strengthen its hand. That's what one of our American fertilizer combinations—the Virginia-Carolina Chemical Company—did when it bought a big potash-mine in Germany.

Here's an Illuminating Supposition

NOW let's go on fitting the boot to the other leg. The steel combination is a sort of gentlemen's agreement, we will say, like the German potash syndicate. It is, in fact, an agreement, made for five-year periods, to govern production and prices, prevent waste, enforce economical methods of mining—such as our government is tardily trying to secure in coal-mines—and generally keep the business on a safe basis. Suppose that, just as the German states own some potash-mines, our government had kept its grip on the Mesaba iron deposits in Minnesota, which it once owned, and through this interest was a big factor in the syndicate.

We are getting our parallel drawn down toward present conditions in potash. On June 30, 1909, the five-year period of our steel syndicate expires. Some of the private producers are dissatisfied with conditions, and before agreeing to renewal of the agreement for another five years want to secure a larger allotment of the business. Their arguments fritter away weeks. The date is approaching when the old syndicate will expire. At midnight of June 30th it will end. The old syndicate must be renewed by that hour, or unrestricted competition will resume sway, prices will be cut, and all thought of sensible conservation will end.

In this crisis, while hundreds of men representing the conflicting steel interests are holding a conference, arguing day after day, night after night, representatives of the two German syndicates appear on the scene. That is what the American fertilizer trusts did while the last potash syndicate was in its dying hours. These foreign buyers, ready with immense orders and long-time contracts, pull every wire possible. They want to get their supplies as cheap as possible and on terms that will freeze out competitors and copper-rivet their monopoly back home. They have unlimited capital behind them. Their orders are the biggest prizes in the game. Their inducements are such that some of the mine-owners, confident of getting their contracts, deliberately prolong the controversy until the clock in the big steeple across the street strikes the hour of midnight.

The old syndicate is dead!

Instantly there is a rush from the conference chamber to the rooms where the foreign buyers are in waiting. Week by week they have held out for this moment. Anticipating the smash-up of the syndicate, they have planned with the greatest care for their grand coup. They have forms of contracts drawn up, ready to be signed within an hour after the old syndicate expires. Before morning, these are executed with some of the privately-owned mines. Thirty per cent. is shaved off the former prices, in these contracts made in the brief period before the syndicate is pulled together again. They cover supplies for one of the foreign trusts for seven years. The saving is said to be worth twenty-five million dollars to that trust.

That is what Robert S. Bradley, chairman of the board of the American Agricultural Chemical Company, did. He got his contract signed—and in a few more hours the syndicate was reformed. But those contracts stood. The mines that held them would be compelled to work to utmost capacity to execute them. Other mines would lose business because of them. The whole trade would be demoralized. When the syndicate was reorganized, important interests remained out of it and made other contracts with American users of potash. The syndicate set about to have these contracts cancelled or rendered worthless; and here come in the legislative measures against which protest is made.

Not so Tough as it Looks

GERMANY threatened an export duty on potash unless these contracts were given up. The American buyers insisted that a contract must be executed, and threatened to appeal to Washington and bring on a tariff war if Germany interfered. The Germans retorted by introducing legislation in the Bundesrath, whose effect would have been practically to repudiate the contracts; and, with this pending, the German syndicate renewed efforts to get the Americans to cancel the contracts. Still the Americans refused.

But they did offer to "split the difference"—to give up half of the twenty-five million dollars saving their new contracts would have made. The Germans would not agree. Fearful of tariff war, the German government did not press the export-tax measure, but instead the imperial government passed a measure, now a law, under which the annual potash production is apportioned among the mines. The mines that made the American contracts are given so small an apportionment that they could not possibly keep the contracts; and the legislation imposes a tax of twenty-two dollars per ton on production above the apportionment. This would mean either repudiation of the American contracts or bankruptcy of the mines holding and trying to execute them.

On its face, this looks tough on the Americans. Examined in the light of knowledge of the methods of our fertilizer trusts, they present another side. Many anti-trust concerns have tried to make fertilizers, and it is constantly charged that the trusts try systematically to induce the Germans to refuse supplies of potash to these, and to make the trusts the sole authorized agents in this country. The effect of such agreement, which the Germans have refused to make, would be to perfect the monopoly of the American trusts, and enable them to exploit the American farmer to whatever extent they liked.

Right there comes the crux of the thing. Would the American farmer get any benefit if those contracts were sustained? Nobody can tell for a surety. I doubt it very much. Our Department of Justice has been on the trail of the fertilizer combinations, for conspiracy in restraint of trade, and evidence is not wanting that the combines, if given the benefit of these contracts would use them to increase their own profits, to drive all possible competition from the field, and in the end would become so rich and powerful that they would be able, when present contracts expire, to dictate terms to the potash syndicate itself. If we had as vigorous and effective methods in this country for dealing with combinations in restraint of trade as the Germans have, it might be worth while to hope for some benefits to the consumer of fertilizers. But, on the whole, it appears much more likely that the American consumer will in the long run do quite as well if the German situation continues to be dominated by a government-regulated community of interests, which at least can be dealt with pretty directly by our government, and which assures that all customers—all individuals or corporations, citizens of one country or of another—will be treated alike.

Of course, the American holders of these favorable contracts do not take this view. They protest that Germany is discriminating against them. This does not seem quite the case, considering that some French fertilizer concerns that secured contracts under the old syndicate prices are having these contracts nullified in the same way that the American ones are being attacked.

The Tariff in the Rôle of Big Stick

PRESIDENT TAFT is being urged by the Bradley interests to coerce Germany by issuing a proclamation applying the maximum rates of the Payne-Aldrich tariff to Germany. There is no doubt that such a move would precipitate a tariff war in which the advantage would be largely on the side of the United States. President Taft, however, is not so sure that Germany has done anything for which we would be justified in making such a move. People who held especially favorable contracts have all been treated alike by the German law. The maximum and minimum provisions of the Payne-Aldrich law are designed to secure exactly the same treatment for Americans that is given to people of other countries. It is seemingly true, as the Germans insist, that no discrimination has been imposed against Americans, as compared to people of other countries. Altogether, it is not likely that there will be any tariff war.

One important result may come from the controversy which has been going on for months, and has been the subject of a good deal of diplomatic correspondence between Washington and Berlin. That is, that a great incentive has been given to efforts to find more deposits of potash in other parts of the world. Already reports have come in that great deposits have been found in Austria, that others are to be opened in Spain and Portugal, and that within continental United States still others are being investigated which may in time make us independent.

Don't Scratch the Trust's Back—It Claws Yours

BUT how about our American trusts, in connection with these discoveries of new deposits? There is no reason to doubt that in time the rest of the world will find plenty of potash. However, note the other side of this case:

The American fertilizer trusts are ready to inject themselves into the control of whatever discoveries may be made. They will be glad to smash the German monopoly—if they can substitute one of their own. Their agents have already investigated the discoveries in Europe. They are now looking into other indications in Death Valley and the Salton Sea region.

Personally, I am a buyer and user of fertilizer. I paid twenty dollars and fifty cents per ton this year for fertilizer I bought from one of the subsidiaries of the American Agricultural Chemical Company. Somehow that corporation does not seem likely to extract much satisfaction or sympathy from my neighbors who have dealt with it. We are not for a commercial war with Germany or anybody else, for its sake.

Mr. Bradley, the real head of the American Agricultural Chemical Company, has explained the contentions of his company to me in detail. His call was most interesting, and I have never met a man who stated his case better. But he did not get my verdict, and I don't believe he will get the verdict of the administration or the country—a verdict that will include recommendation of commercial hostilities with Germany.

POOR RELATIONS

By Adelaide Stedman

Author of "Miracle," "Intellectual Miss Clarendon," Etc.

Illustrated by Herman Pfeifer

Part VI.

Outline of Preceding Chapters

MARION and Penelope Martin, who are left penniless by the death of their father, go to New York City to make their living, Marion hoping to be a newspaper woman and Penelope intending to start as a decorator. The girls are alone in the world except for their father's wealthy relatives, who do not wish to be troubled with poor relations. After a visit from their Aunt Clem and Cousin Penelope the girls learn that they need expect no help from them, that they must fight their fight alone. Their Cousin Fred is the only one who treats them with courtesy, for he seems to have taken a sudden fancy to Marion. John Hastings, editor of the *Morning Chronicle,* and fiancé of the rich Penelope, appoints Marion a society editor on his paper, and through Pierce Brothers Penelope is commissioned to refurnish the home of Mr. Shreve at New Rochelle. Just when things are beginning to look bright for the girls something unpleasant occurs at Pierces', and Penelope sends in her resignation. However, after many unhappy attempts to find another position, the girls receive in the same mail two letters, one from the lawyer of their Uncle Stephen, who lives at St. Paul, stating that he refuses to accept the money on the mortgage on their father's home, and one from Mr. Shreve begging Penelope to carry out his commission privately. With the mortgage money Penelope then starts as a decorator on her own account and accepts Mr. Shreve's commission. In the meantime quite a warm friendship has sprung up between Marion and John Hastings. Marion admits to herself that she loves him, but never breathes her little heart secret to her sister. Hastings has no idea that she is related to his fiancée, for Marion has never told him. Instead of having the happiness he had expected during his courting days, Hastings finds something lacking in Penelope and feels cheated of his romance. She refuses to announce her engagement and allows the Comte de Feronac to pay her much attention. All the while Penelope, too, has a little heart secret which she keeps from Marion. Her friendship for Mr. Shreve has ripened into love, although she hardly admits it to herself. At his club one evening Mr. Shreve meets his old friend John Hastings, who tells of his engagement to Penelope Martin. Shreve is astounded at the news, and leaves Hastings very suddenly and goes off with a heavy heart, to the home which he had dreamed he and Penelope would one day occupy together. He does not know that Penelope has a cousin by the same name. Meanwhile Marion is having her own troubles. The Martins give a great ball and she is asked to go and write up the affair for the paper. She dreads meeting her Aunt Clem, whom she feels despises her more since Penelope sent her business cards to all the society people and flaunted her daughter's name in trade. When Marion sees Hastings, the man she loves, happy, smiling, dancing with Penelope, she can stand it no longer. Dizzy and faint, she rises and leaves the musicians' gallery where she had been sitting. When she reaches the bottom of the stairs, she stops a moment to collect herself, and just as she turns to go Fred Martin walks out of a near-by door and stands in front of her.

Chapter XVI.—Continued

"MARION," he marveled, "what in the name of all the heathen gods are you doing here?" He had evidently been partaking of the punch already, and he repeated unsteadily, "What—are you—doing here? I had no idea I would see you!"

"I—I am a reporter on the *Chronicle.*" The girl looked about desperately for a means of escape, but there was only one path—down the long corridor where he could easily follow her. "I must go," she moved decidedly, "right away!"

"No, not yet." Fred spread out his arms in front of her. "Not yet! I want to talk to you. You are my cousin—my very pretty cousin—and I want to talk to you!"

"No, I am late." Her voice trembled with alarm.

"Nonsense!" The boy's tone was irritated. "You don't have to get your stuff in until twelve o'clock. I'll take you down in my car."

"No, thank you—please—"

He took her arm and pointed to the green upholstered bench. "Let's sit down and have a little chat," he suggested.

Perforce Marion consented. She dared not refuse. In his half-intoxicated state, he was quite capable of making a scene.

Once seated, Fred leaned back comfortably and eyed her attire with scant approval. "The mater ought to have sent you a bid to this affair," he grumbled. "I told her so, but women are such cats sometimes. You should have been invited!" His voice was grave as with the affairs of nations.

"Oh, not at all," Marion demurred. "We should not have come, anyway. And now—I must go!"

"Oh, no!" He caught her sleeve and drew her down again.

She looked about fearfully, meditating on a run down the corridor. "You must go back to your guests," she insisted. "I simply must go!"

"They are not my guests. They bore me—to death. The women buzz—you know! I always want to wave them away—like bumble-bees!" He laughed loudly.

The girl's chagrin amounted almost to agony. What would her aunt say if she found them there? She looked at Fred, tears in her eyes. "Don't you see I must go," she pleaded. "I—I have no right to be here. I—"

He broke in persuasively. "Then let me take you to your office. I called twice—at the hotel, but you—were out. I would have come oftener, only—the governor made me promise not to! Now—you are here—and I want to talk to you. You look awfully pretty when you cry, Marion. I tell you, give me a kiss and I'll let you go!"

"Fred!" the girl rose furious.

"Not so fast!" Once more he caught her arm, exclaiming, "Jove, you're stunning when you're angry, too! Come, give me a kiss—we're cousins!" he leaned toward her.

Deadly pale, she tried to push him away, sobbing, "Don't—oh, don't!"

A man passing by the palm screen heard the agonized voice, and stepping aside, he caught sight of the befuddled boy still holding the girl's arm.

"Miss Martin," Hastings almost shouted in surprise, then his face became grim. "Fred, you—" instantly he saw the boy's condition and with one twitch drew him away, so forcibly that he fell. Angrily he picked himself up, as the man gazed from him to Marion, dumfounded, his eyes lingering on the girl's terrified face.

"Hastings st oped and picked up the offending package"

"I guess I can talk to—" Fred began belligerently, when Hastings interrupted almist savagely:

"Oh, no you can't!" Then he turned to Marion and said gently, "Miss Martin, I had not the slightest idea you were here."

"Miss Dean was ill—I had to come," she gasped, grasping the bench for support. Everything was whirling before her eyes—she could not think—it was too awful.

Hastings looked at Fred scathingly. "March," he ordered under his breath, "and quick!"

The boy flared under the scorn in the man's voice, "I will not," he exclaimed wrathfully. "I guess I don't have to ask your permission to talk to my cousin!"

"Your cousin," the man whispered.

"Yes!" Fred laughed impudently.

Hastings turned to Marion for confirmation.

"Yes," she echoed weakly, then of a sudden the flowers, the lights, the music seemed to overpower her and she sank limply on the green seat.

"You cad! you miserable, contemptible cad," Hastings railed, scarcely knowing what he was saying as he raised the girl's head, "go for Penelope, quick!"

At the sight of Marion so still and white, the boy began to recover himself. Nervously he hurried away, while Hastings stood looking down at the girl in dumb suffering. A wild unreasoning anger filled him. She—Penelope's cousin! Why had he not known of it?

In a moment his fiancée swept into the hall, her eyes blazing.

"What is this about Marion's fainting?" she demanded. "Oh, as soon as I heard she was here, I knew very well she'd make a scene—just to humiliate us before our guests!" The girl was beside herself with fury.

"What do you mean," Hastings said angrily, "don't you see her? Get some restoratives quickly!"

"Can't she be gotten out of here?" The girl's voice shook. "I won't have a scene!"

The man's face grew strange and white as he stared at Penelope. "I'll go then—" he began, and just then Marion opened her eyes.

"Oh, what is it?" she whispered.

"Nothing much," Hastings' tone was inconsequential, but he gazed authoritatively at the brother and sister, "you just lost consciousness for a moment."

"How awful!" she sat up slowly, still dazed.

"Oh, what effect!" Penelope sneered, so shaken she could not restrain herself.

Marion stared at her and abruptly the hot scarlet of pride glowed in her cheeks, and she rose, restored by her indignation. For a moment she glanced at each face in the group, then Fred touched her arm, "I'm awfully sorry," he confessed, "this has been all my fault."

"It is over." She turned abruptly, then added hesitatingly, "you can tell your sister what happened. Now, I am going."

"You are not fit to leave here." Hastings' voice was anxious.

She smiled at him bravely and replied, "I am all right; but now—please—please let me go." Her voice broke and without another word she hurried away.

They stared after her a moment in silence, each upset, stirred, unstrung. Then, suddenly, the Comte de Feronac was bowing to Penelope with courtly grace. "Is it not our dance, mademoiselle?" he inquired.

The girl started, then nodded and smiled graciously, and chattering in French walked away with him.

Fred stood regarding Hastings undecidedly until that gentleman turned on him fiercely.

"You—you—" he began, then clenching his hands, turned away disgustedly.

"I suppose I had had a little too much," the boy confessed guiltily, "why is it I never know when to quit? I think I'll sign the pledge." He gazed at the older man for approval, but Hastings had not even heard him. He was walking up and down, his hands in his pockets, his face drawn into a scowl of self-condemnation. Why had he allowed Marion to leave alone? Why had he listened to her plea? She might have fainted again right on the street. What might not have happened! His mind was in a turmoil. Marion, Penelope's cousin! Why had she not told him—still, why should she have informed him? But why had her relations done nothing for her? His heart was bitter against Penelope—his fiancée. He shuddered. The Miss Martin who had enraged him that night was a very different person from the brilliant, engaging Miss Martin who had won him.

He glanced at his watch impatiently; Marion ought to be at the office by this time. He turned to Fred who was still glooming near by. "Is there a telephone in this part of the house?" he inquired.

"Yes, in the green room to your right," the boy answered and walked away.

Hastings strode through the open doorway and took up the little instrument which stood on a convenient table.

"Hello, give me Bryant 3101," he spoke softly.

Suddenly a man's voice sounded from an adjoining room.

"What are engagements," he was saying in French, "they are worthless if the spirit is lacking! What makes them binding is love! Ah, mademoiselle—think—I will give you devotion—ardor—worship. We will be happy—I love you, see I am brave to say it! I dream about you—I breathe in your honor!" Hastings moved noisily and tried to get out of earshot. He recognized the Comte de Feronac as the speaker; and a dull wonder as to whom the fair engaged one was, who listened to such love-making, crossed his mind. He could only half realize the situation. His thoughts were of Marion.

In a moment his number answered and he queried eagerly, "Jackson, has Miss Martin come in yet with her assignment? Yes, this is Hastings. What; she has! Oh." There was a vast relief in his voice. "That's all. Good-by."

His heart felt suddenly light. Wiping the beads of perspiration from his forehead, he walked toward the far room, forgetful of the words he had just overheard. He stepped over the threshold, but withdrew instantly, for he had caught a glimpse of Penelope in the comte's arms.

Gathering himself together, he retreated, and approached from another entrance so that they could not fail to hear him. His heart was pounding loud with anger, but this was not the time nor the place for action.

Standing once more in the doorway, he said blandly, "This is my dance, I believe," even as he noted the flush on Penelope's cheeks.

"Oh, yes," she smiled lightly, as the comte gave her a languishing look. The men did not exchange a word.

Grimly Hastings led the girl away. "I want to talk to you, Penelope," he announced, leading her into the green room. He was wounded and hurt that she had deceived him. Didn't she love him after all? The thought sent a great wave of gladness flooding over him. Perhaps he could still be free!

"Well?" the girl seated herself, impatiently tapping her satin slipper on the floor.

"Briefly, this!" He came to the point instantly. "I won't be played with, Penelope! I happened to overhear part of the comte's love-making to you!"

"Eavesdropping, were you?" she sneered.

"You know better. It was quite by accident—but that makes no difference—I heard what he said!"

"Well," she queried again, smiling a little triumphant, mocking smile.

"I won't stand it!" his anger rose at her nonchalance, "you are engaged to me. I find you in another man's arms!"

The girl still smiled, "Do you want your ring back?" she questioned calmly. "Then come to me to-morrow at five. Now, I've another dance with the comte."

Hastings' face was dark. "I'm glad!" he muttered, "I'm glad!" His voice was almost fierce with joy.

She looked up challengingly, "You were anxious enough to, once," she parried. "It was I who dallied with the announcement! I who played with you! Stupid! I would have died of ennui within a month as your wife! I've known for a week that this was going to happen, only I was not ready to tell you—until to-night."

Once more the comte stood in the doorway taking in the situation with knowing eyes.

Penelope rose promptly. "To-morrow at five then?" she questioned placidly.

"Yes!" the man's voice spoke volumes.

Then he was left alone.

Chapter XVII.

THE night of the ball was one long torment to Marion. She had come home utterly wretched; to pour out the story of her humiliation in an angry riot of words, to which Penelope listened in silent indignation; her dark eyes so soft and tender that the younger girl felt they must see through her pretenses and discover her secret. Somehow she could not bring herself to speak of her feelings toward Hastings. She loved him; but he and she were parallel lines which might run along side by side indefinitely, but could never meet. Not even Penelope should hear the words she might not say to him.

A girl's renunciation is a queer thing. With Spartan firmness Marion had accepted fate's dictum that John Hastings must be put out of her life; but she had quickly realized, and the experiences of the evening had brought the lesson home, that she could not stand by and watch the engaged couple enjoy their happiness.

Throughout the long dark hours she had re-decided that as soon as possible she would leave the *Chronicle* and try never to see its owner again. At the thought, a dismal little sob shook her. She was young. She was in love! Her yesterdays had been mere promises; the long, long to-morrows ought to be days of fulfillment. Instead, the future would stretch into just a succession of years; with no white stones to mark their progress.

After a while her gush of self-pity passed; and the inevitable rebound lifted her above despondency. She had her writing. Perhaps some day she would be famous and have hosts of friends. Even her snobbish cousins might come to her humbly, in deference to her greatness. There was her novel right now. She had taken it to a publisher's three weeks before. It might be accepted! Who knew? With such soothing thoughts she tried to salve the ache in her heart, and finally came the best ointment of all—sleep!

In the morning she went to the office as usual; but evading any possible contact with Mr. Hastings, secured her assignment and slipped out.

Penelope had suggested that they have a picnic lunch in her office that day, so at noon Marion hurried along Fifth Avenue, carrying several neat paper bundles. Luncheon was in the air. The population of the stores was temporarily withdrawing to places where King Menu reigned.

The girl walked quickly, until her eye was caught by a cloth-of-gold gown in one of the shop-windows. It was exquisitely embroidered in nodding goldenrod, and artistically displayed about it was a glittering fan, gold slippers, silk hosiery and a sequined scarf, all to match.

"Oh," Marion exclaimed in delight and paused almost unconsciously, as did two out of every three women who passed.

In a moment she walked to the side street where a rear view of the creation could be seen, when suddenly the sound of a man's laugh caused her to turn quickly. There stood Mr. Hastings, his eyes merry as he regarded her.

"You were so absorbed you didn't notice me!" His voice was strangely glad.

Hot color flew to her cheeks. "I—I *was* absorbed," she confessed lamely, her mind flying over the episode of the night before.

John Hastings looked down at her with something suspiciously like tenderness in his eyes. He had longed to call her to his office that morning; but he had decided not to, for even as Marion had realized her hopeless love for him, with the first hope of freedom, he had suddenly seen what his sentiments were toward the golden-haired girl who occupied so large a share of his thoughts. Penelope would never know it, but her own actions toward Marion last evening had first awakened him to this self-knowledge. He loved Marion.

He would wait until the following day, when he would be actually free, for how could he talk calmly, when every moment he would be longing to take her in his arms and tell her everything? For the first time he had felt the thrill of real love making his heart pound harder.

Now, however, that he had unexpectedly met her, it was hard indeed to keep the happiness out of his voice and manner.

A crowd of women had gathered about the attractive window, and suddenly some one, in turning, collided with Marion, knocking her against Mr. Hastings. She recovered herself instantly, but the string on one of her parcels caught on a button of his coat, and in a moment a glazed package of ham was lying on the sidewalk, while its outer wrapping, caught by the wind, went sailing away.

Marion gazed at it in confusion. "Oh," she murmured, "what shall I do with it!" A few people were staring already, so Hastings, noticing the girl's embarrassment, stooped and picked up the offending package, placing it in a magazine he was carrying.

Marion laughed hysterically, as he gravely took the swollen book under his arm. "My sister and I planned to have a picnic luncheon in her office," she explained breathlessly, not remembering she had never mentioned Penelope to him. "Wasn't it awful to drop it! Everyone looked so scandalized at seeing plebeian ham!" Suddenly the ludicrous side of the incident occurred to them both and they laughed weakly. It was one of those occurrences which make people intimate in a moment.

"Are you giving your magazine 'food for thought,'" she giggled after a pause.

He smiled and said slowly, "I am sorry your picnic was endangered. I didn't know you had a sister here, Miss Martin."

The surprise of discovering her relationship to his fiancée had remained with him. Why had he never been told?

"Oh, yes," Marion replied, endeavoring to speak easily. "I have a sister, Penelope. She is a decorator."

"By Jove, I remember when she started!" Hastings exclaimed. "I never connected you with her. Why didn't you tell me you were related to the Charles Frederick Martins? You must have known I knew them."

"Yes," Marion nodded; then paused, wondering what to say.

"Then why didn't you tell me?" he insisted. Something in his tone made the girl decide to reply with a half truth. "Because I didn't want you to feel under any obligation toward me on account of—friendship," she answered.

He drew a long breath of relief at the simplicity of her answer. He had not liked the mysterious suggestion of secrecy.

"You were over-conscientious. Don't you know I would always do anything I could for you, for your own sake?" His voice was eager.

Marion started and trembled. She must turn the conversation into safer channels.

"Thank you," she murmured. Then, the words scarcely audible, she added, "I knew of your engagement to my cousin—I wanted to keep business—and—sentiment apart."

"You knew!" Hastings exclaimed involuntarily; suddenly ill at ease and angry.

She nodded silently. A phrase of congratulation would not come.

The man could scarcely contain himself as he saw the pained look in Marion's face. How he longed to tell her that she was the one, that to-morrow he would come to her with the great offer. With an effort he swallowed the crowding words, only allowing himself to say, "You must never speak of obligations between us, Miss Martin. You—you do not need influence—to succeed. It is odd, though, I can never think of you as a business woman."

"I am glad," she replied, voicing the sudden impulse which came to her, "because I expect to leave your employ very soon, Mr. Hastings."

"What," he exclaimed. There was real anxiety in his voice. The idea of her leaving voluntarily disturbed him, though he fully intended that she should leave, never to return.

"Is anything wrong?" he queried.

"I—I cannot risk a repetition of last night's scene," she answered, scarlet with embarrassment. "To be a society reporter, under the—present circumstances—is impossible."

A great pity for her moved him. "It was terrible for you," he replied. "Fred is a young idiot." His opinion of the rest of the family remained necessarily unspoken.

Marion made no response. She was surprised and wounded that he did not object to her going more strenuously. In a moment she moved to leave him. "It is late," she said. "I should not have discussed my affairs now. May I come to your office to-morrow at five?"

"Do," he exclaimed so heartily that she felt more hurt than ever; then added, "Meanwhile, let me walk to your sister's office with you, to guard against accidents."

They said little until they stood in front of the big building where Penelope's modest sign appeared. The man was busy watching the girl's exquisite face under the simple little fur turban. He had gathered meaning from the morning's incident, and he was too much of a New Yorker not to know that only necessity led girls to take "picnic lunches in offices." How he yearned to give flower-like Marion all the little luxuries, to protect her from every privation and hardship!

"Good-by," she said at last. "I think you deserve a reward for your bravery! It certainly took courage to pick up that—package."

He handed her the bulky magazine gravely, saying with half-laughing earnestness, "Be careful! I'm very grasping. I may claim—that reward."

"Very well. It's a leather medal!" she exclaimed hastily; then with another good-by, hurried away.

Penelope was in the office, but she did not notice Marion's flushed face or nervous, troubled manner, for her thoughts were fixed on a letter which lay on the desk by her side.

Finally Marion became conscious of her sister's silence. "What is it, Pen?" she asked anxiously.

"Nothing, dear, I just have a headache."

"From whom is that letter?"

"From Mr. Shreve. He has gone to Europe!" The girl rose abruptly and left the room.

"Oh," Marion murmured with sudden light. Then her eyes filled with tears. Surely she and Penelope were not favorites of fortune.

Chapter XVIII.

MARION left Penelope's office immediately after luncheon, covered her afternoon's assignment, and at five o'clock returned to the hotel. It had begun to rain, and she drew off her wet things wearily. The gray wall opposite looked darker than ever under the somber sky, and she was forced to turn on the electric lights to give the rooms even a semblance of brightness. What a miserable day it had been. Her unexpected meeting with Mr. Hastings had been so strange. She could not understand him. He had seemed so eager in her praise, only to take her decision to leave his service with most disconcerting calmness.

Suddenly the door-bell pealed, putting a temporary end to her questionings.

It was a boy with the mail; and the one letter she received sent a vivid red to her cheeks, for printed on the envelope was "Merrick & Bland, Publishers." The girl held the leter convulsively, and the clock ticked minutes while she stood staring at it, afraid to read its contents. Her breath came quickly as she finally tore the envelope open and pulled out the typewritten sheet. It began:

MY DEAR MISS MARTIN:—

We have read your novel, "Both Sides of the Story," with great interest. It shows much promise, and we have decided to publish it if you are willing to assume half the expense.

Her face fell and she had to shake the tears out of her eyes before she could read on.

You understand that the risk is great in publishing the work of a new author, but under the above conditions we will assume the responsibility. The sum we would ask of you would be about fifteen hundred dollars ($1,500). If you will kindly call some day this week between eleven and one, we can settle matters definitely.

Very sincerely,

C. C. KNOWLES,

Merrick & Bland Publishing Company.

The girl crumpled the sheet in her hand, laughing hysterically. "Publish it—if I pay fifteen hundred dollars," she thought ironically. "Why, it takes me a whole week to earn twenty-five. Fifteen hundred dollars!"

Again the peal of a bell, but this time the telephone's, disturbed her.

Marion tried to steady herself as she answered.

"Hello," she called shakily, then as a voice answered her, she repeated, "Mr. Frederick Martin calling." Her voice was amazed; but after a moment's hesitancy she went on. "Tell him I am very sorry, but I cannot see him."

With scant ceremony she hung up the receiver and for a few seconds she wondered what in the world her cousin wanted; her anger rising at the thought of him. Then he was forgotten in her misery over Merrick & Bland's letter. The book was good! They admitted that! Why didn't she have the necessary money!

Presently the third ring of a bell startled her. Slowly she went to the mirror and dried her wet eyes. It was the door this time. Slowly she went toward it and threw it open, only to see Fred step into the room.

"What do you mean?" she demanded with dignity. "Didn't—"

[CONTINUED ON PAGE 38]

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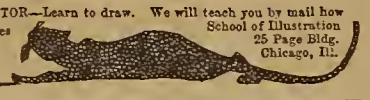

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Things Worth Knowing

The Valet of the Goddess

THE Goddess of Liberty, perched upon the Capitol at Washington about one fifth of a mile above the ground, ought to be in mourning, if she is not. For Al Ports, who for forty years has tended her and is the only man who ever came within kissing distance of her, is dead. Ports was one of the best known and conspicuous of the old-time attaches of the Capitol, and rendered untold service to the goddess. Among other things, he has five times scrubbed her from head to foot. As the goddess is twenty feet high, built of bronze and weighs sixteen thousand pounds, this was no slouch of a job.

Not even the importance of the goddess saves her from the elements and she has to be scrubbed once in about four years to keep her from falling to ruin. At each quadrennial cleaning she is found to be covered with great scales of oxidized bronze, to say nothing of bearing on her person the marks of hundreds of strokes of lightning that have hit her since the last time she was washed. All seven of the lightning-rods on her shoulders and in her crown are usually completely fused and burned away and have to be renewed.

Ports has had charge of this work for forty years. He is the only man who ever fell from the dome and lived to tell of it. Working on the balcony just below the goddess he slipped and fell. He turned a complete somersault in the air and landed in a crumpled heap in the gallery above the first order of columns, not dead —only stunned a bit.

In addition to washing the goddess, Ports and his men have regularly repainted the outer surface of the dome itself. Washing the goddess usually takes a week and costs four or five hundred dollars, but painting the dome takes nine or ten tons of paint and the labor of thirty or forty men for about two months.

The dome has eight hundred thousand square feet of surface, or the equivalent of about eight ordinary city blocks. The work is dangerous, especially for the men who put up and move the scaffoldings. The timbers have to be poked up through a hole just under the goddess, and put together piece by piece. The dome is painted from movable ladders, and when it comes to shifting these over one of the ridges in the roof, onlookers hold their breath. However, no one has been hurt yet, though there have been several narrow escapes. On one occasion a man slipped at the very foot of the great Goddess of Liberty and slid downward along the thirty-foot curve that ends in mid-air. When he stopped, his legs were dangling over three hundred feet of space! One of the men threw him a rope, and he climbed back and went on with his work unconcernedly.

The hardest thing to reach is the Indian headdress that the goddess wears instead of a cap. President Jefferson is responsible for this bonnet. He was at the helm of state when the goddess was cast, and he objected to the liberty cap. "The liberty cap," he said, "was the symbol of freedmen, not of freemen. When a slave became free in those days, he assumed the cap. It has no place in the heraldry of men who were born free. We will have none of it."

When asked what, then, the goddess should wear, Jefferson is said to have replied: "The goddess is now an American goddess, and she ought to have a distinctively American headdress; certainly there is no other so very American as the Indian feather bonnet." So she was fitted out with one and placed on high to show the nations of the world what this young country could do when it really tried. If the goddess were mortified over this mix-up, she has at least had time to get over her regrets in the better part of a century which has elapsed since she was elevated to her lofty perch on the Capitol's dome. But nothing will console the men who have to wash those feathers one by one. C. MARRIOTT.

* * *

There are a great many different kinds of grain used as food by men in various parts of the world. Corn and wheat are very extensively used and barley is consumed in vast quantities in certain parts of the world, but at least one third of the population of the whole world live on rice. It is said to be used in more ways than any other one article of food in the world.

The Goddess of Liberty on the Capitol's Dome at Washington

Concerning Halley's Comet

EDMUND HALLEY, the disciple of Newton, was not the discoverer of the comet named after him, but he was the first to find by his calculations that the orbits of the comet observed in 1531, 1607 and 1682 were identical and that the period for the return of the comet would be seventy-five and one half years. The first reports of the appearance of the comet date back to the fifth century B. C. Chinese astronomers have regularly described its periodical returns for two thousand years. But none of the earlier observers recognized that it was the same comet that reappeared periodically amongst the great many reported. Halley did not live to verify his prophecy of the return of the comet in 1757, for he had died, in 1742, at the age of 86. Of course, when the time came all observatories were busy to reach the skies, but none of the learned astronomers of the day succeeded in spotting the expected star. The first one to see it was a plain peasant of Saxony, John George Palitzsch by name, whose hobby was astronomy. He had hidden his instruments underground during the first years of the Seven Years' War, but had dug them out again when the worst danger seemed past, at least, for his neighborhood. He reports that with his eight-foot tube he saw the comet in the constellation of Pisces on Christmas Day at six o'clock in the evening.

He repeated his observations on the twenty-sixth and twenty-seventh of December and assured himself that it was the comet, so eagerly sought. Palitzsch, whose discovery of the comet had made him famous all over the world, became a regular correspondent of the great F. H. Herschel, astronomer to the English court, who, at one time, had been an humble musician in Hanover. The Saxon peasant made some more important contributions to astronomical science.

It was, by the way, a farmer in the Transvaal who gave the first report of the appearance of Halley's comet last spring.

Iron in Vegetables

IT IS estimated that the human system needs a little over a grain of iron a day. It is, therefore, not without importance to know, that of all the vegetables, lettuce contains the most iron. Many people, even physicians, believe that spinach is richest in iron salts; this, however, is an error. On the contrary, the latest investigations place it lowest in the scale in this respect. Winter cabbage comes next to lettuce, and even the potato contains a higher percentage of iron than spinach. Perhaps this may be a comfort to fat folks who will eat potatoes.

Items of Interest

A FRENCH company has been organized to dam the Rhone to such an extent as to secure water-power of one hundred thousand horse-power, for valuable manufacturing purposes, and to reëstablish navigation from the city of Lyons to Lake Geneva, and to connect the Rhine with the Rhone by a navigable canal. The work is looked upon as a wonderful piece of modern engineering, and will make a wonderful change in affairs in the section of country more closely identified with the improvements.

* * *

The manufacturing industries of the world often undergo some very odd changes. During the reign of certain rulers certain industries sprang up that afforded the people labor, but for political and other reasons the industries would be neglected, and in some instances the industry would disappear entirely. In later years many of the leading nations have made laws protecting the leading occupations and industries of their people, but even in these modern times some queer changes take place. Twenty years ago Germany was the leader in the manufacture of buttons from shells, and Japan secured its supply from Germany, but in late years Germany is importing shell buttons in large quantities from Japan.

* * *

Expert explorers who have gone from the United States to the Philippine Islands for the purpose of determining the variety of the valuable products that are to be found in our possessions across the Pacific, report great beds of coal, which are to be found on almost every island fully explored. This will make a vast change in shipping facilities, as the expense will be much less than if the fuel would have to be shipped from other distant points. Minerals of almost every sort are found, and iron and copper, as well as zinc and lead, and some very rich gold and silver deposits have been found. Stone and cement materials, as well as valuable pottery clays and some of the finest timber to be found anywhere, comprise a few of the more valuable finds on our distant possessions, and the islands will be the scene of great activity in mining and manufacturing industries in the coming ages.

* * *

Away up in Alaska, where our people who are used to luxuries go in search of great wealth, many hardships are often encountered that we who remain at home cannot realize without actually experiencing the same. To do without fruits and vegetables, except those that are prepared to be taken to that distant cold region, is a hardship that most American people never think of until they are hidden away amid the gloom and snow and ice of that Arctic region. An apple might be carried there if every precaution were taken, but it would bring as much as five or ten dollars if sold. One of the most remarkable discoveries in that frigid region is the finding by an American of a great hot spring, which, although but twenty-five miles from the Arctic circle, is continually pouring forth great volumes of hot water and steam. It has so modified the climate for a short distance around the wonderful spring as to make it a desirable place to reside and to raise a number of fresh vegetables, which are said to be delicious, and which, of course, command a handsome figure from the hungry gold-seekers.

* * *

Naturalists tell us the oldest known species of tree in America is the gingko tree, which in former ages thrived in great abundance as far north as portions of Canada. The gingko tree has a trunk resembling the pine and a magnificent foliage similar to that of the maple. In autumn the foliage becomes a solid mass of a beautiful golden hue, and is more uniform in its coloring than any other highly colored tree in the season of approaching winter.

Some of the rare trees are grown as far south as the Carolinas, but more are to be found farther north.

* * *

The Salvation Army is growing so rapidly that it looks as though it would some day conquer the world. The army is established and doing good work in fifty-two different countries on the globe, and still the work goes on with new converts by the thousand. J. D. TIMMONS.

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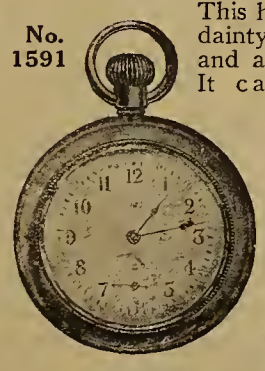
FARM AND FIRESIDE, Springfield, Ohio

GIRL'S WATCH

Do you want to have one for yourself?



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FARM AND FIRESIDE **Springfield, Ohio**

Sunshine Boxes for Mothers

By Fay Stuart

The day is cold and dark and dreary.
It rains and the wind is never weary.

THE no-school signal sounds and mother sighs. Dorothy and Ruth flatten their noses against the window-pane and complain tearfully that there is not a thing to amuse them. They have read all their books, the games are old, and as for patch-work, "they just hate it!"

The rainy days, especially rainy Saturdays, and the days of convalescence when measles, whooping-cough and other childish ailments have left the children fretful and exacting, present a perplexing problem which mother must solve.

The wise mother prepares for these emergencies. Upon the top shelf of a closet she stows away, little by little, the materials from which Ruth and Dorothy, and even brother Robert, can manufacture sunshine on the most stormy days.

In every household there are quantities of odds and ends. It is very easy to burn them because they have no particular place and one wishes such stuff out of the way. It is hardly any trouble, however, to save and slip these odds and ends into their respective boxes upon that closet shelf. On rainy days mother will find these boxes brimful of sunshine.

There are the pretty advertising cards, the pictures from last year's calendars, the colored plates in the seed catalogues, the fine prints and photographs in old magazines. Put them all in the box marked "Pictures," and then some stormy day or long winter's evening show the children how to arrange them artistically in scrap-books. A collection of photographs, which might include the White House children, as well as the little heirs to the thrones of foreign countries, or an album of famous authors and artists, would be instructive as well as interesting. One child might fill his book with cat pictures, another with birds, flowers or pretty baby faces, and so on.

The large pictures glued upon pasteboard and then cut into strips and fancy sections make interesting puzzles.

Then there should be the "Poem Box." Let the children sort these out for scrap-books, choosing the Christmas poems for one page, Easter, Thanksgiving, humorous and patriotic for others. If the children like to speak at entertainments, they will be interested in this box, and the book of selected poems will prove useful.

Sometimes a pair of scissors and a pile of old magazines will busy the little fingers for hours as they clip out the pictures and verses.

Another box might contain cast-off millinery. Old violets, roses, daisies and other flowers, feathers, ribbons and bits of fancy straw from discarded hats are easily taken off and tossed into this box. How the little girls will revel in the conglomeration of bright colors as they fashion gaily-trimmed hats for their dolls!

In another box save pieces of silk, velvet, muslin or woolen goods with all the stray bits of lace, baby ribbon and bead trimming. From these treasures will grow dozens of dresses, sashes and bonnets for the little dolls.

One box should be devoted to the pages from old fashion magazines from which the little folk so eagerly cut whole families of paper dolls.

All the pieces of colored paper or lace paper from the candy-boxes, bits of gilt and tinsel should be kept for the time when the little girls want to make dresses for their paper dolls. Bright tissue paper will be in demand at May-time. With a dish of paste and some scissors the children will manufacture wonderful May-baskets for their little friends.

There is hardly a limit to the number of boxes which might hold these sunshine materials. This is not an exhaustive list by any means, but intended simply as a suggestion to each mother's ingenuity.

It means some little trouble and thought in making the collection, but the results will prove that it is well worth while. Be careful not to be too lavish with the sunshine material. One box at a time and only upon stormy or shut-in days will prevent that embarrassment of riches that soon ends in weary listlessness.

If the children can be influenced to make the picture-books or puzzles for some little sick friend or the children's hospital, if the choicest poems are collected in a book for auntie's birthday gift, or a little doll with her dainty outfit planned and sewed by childish fingers is made with the thought of sending it to some poverty-stricken home where play-things are a luxury, then the rays of sunshine will creep into other homes, and best of all, while amusing themselves, the little ones will learn lessons of generosity, thoughtfulness and love.

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No work at all. No time taken up.

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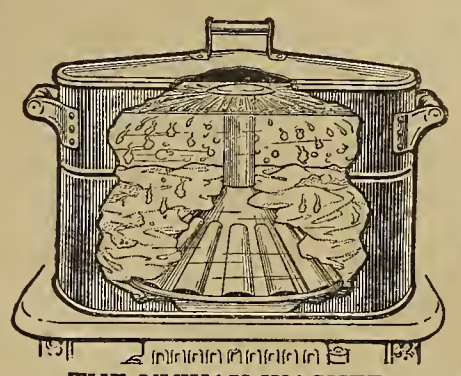

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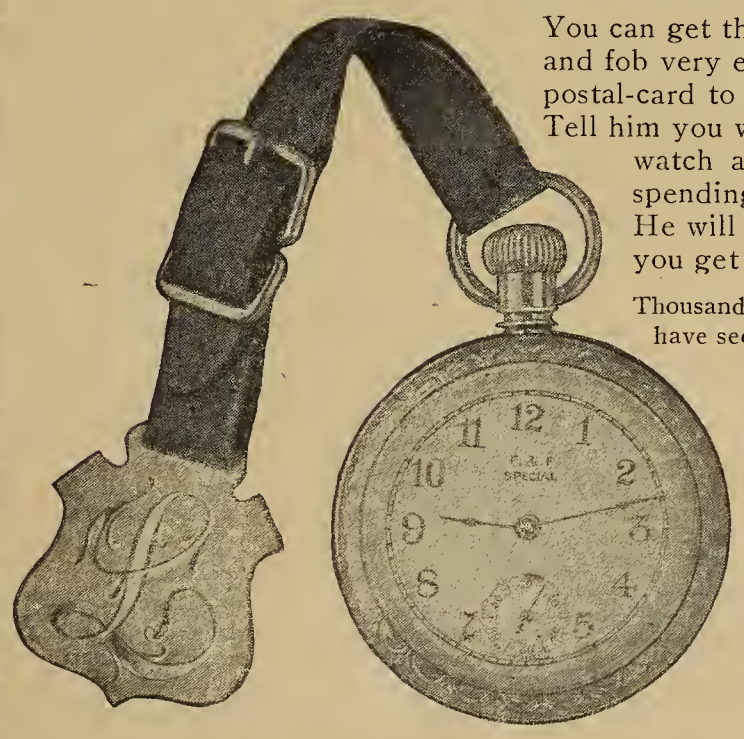

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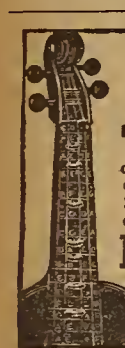

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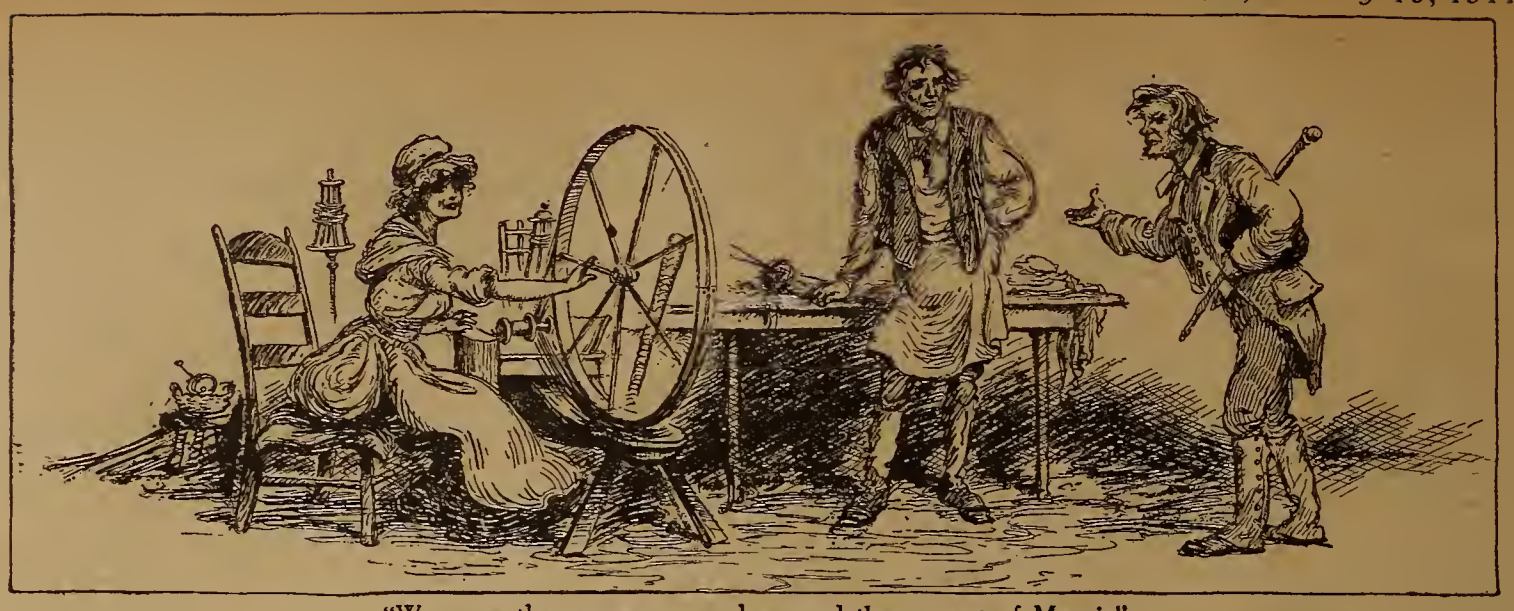

"Won over the young man and secured the consent of Maggie"

SWEETHEARTS STILL

A PATHETIC LOVE STORY OF OLDEN DAYS

BY E. E. LEWIS

There's a bliss beyond all that the minstrel hath told
When two that are linked in one heavenly tie,
With hearts never changing and brow never cold,
Love on through all ills and love on till they die.

DAVID LLEWELLYN was a young sheep farmer on the Welsh hills, living near the road between Abergavenny and Blaenafon.

In the year 1800, five years after the Cape of Good Hope came into the possession of the British Government, David caught the fever of desire for the new El Dorado. Converting his possessions into money, he took ship from Newport and in good time landed at his future home. Cautious and calculating, he prospered in everything, and in the autumn of 1807 returned to his native land for a shipment of horses.

He made his purchases at Abergavenny and neighboring market towns, and brought them together at the ship inn of Newport, Monmouthshire. Sailings were not then so frequent as in this day of great ocean commerce, and Mr. Llewellyn had nearly three weeks to wait before he could find a suitable ship bound for the Cape. Meantime, being necessitated to have some help in caring for the horses during the long voyage, his attention became fixed upon Matthew Reese, the hostler at the inn, a strapping young fellow of twenty years, always good-natured and with a reputation for being kind to horses. When Llewellyn heard of this he concluded that he had found just the man for his work. Broaching the matter to the landlord, he received the highest indorsement of Matthew's character, but was told that he expected to be married at Michaelmas to Margaret, a pretty young maid at the inn, and that it was probable the arrangement would be an obstacle to the long voyage.

Matthew Takes Leave

But an interview with Matthew and the promise of good wages, which would help him and Maggie to begin housekeeping upon his return, won over the young man and eventually secured the consent of Maggie. So one fine morning in the spring of 1808 Matthew bade his sweetheart good-by, with many tokens of affection and regret, took the horses on board and headed into the British Channel upon the long voyage to Cape Colony.

During their intimacy at sea Mr. Llewellyn became more favorably impressed with Matthew and resolved, if possible, to keep him permanently. But when he came to propose it, shortly after reaching South Africa, he was met with such a decided refusal that he feared to bring the question up again. However, Matthew was persuaded to help with the horses until they were disposed of, and then the delay of waiting for a ship was such that some months had passed.

Matthew Hears Bad News

Matthew had, almost as soon as he landed, written a letter to Maggie and given it to Mr. Llewellyn to post. He had also written two since, sending them into town by the same hand, and was wondering why he heard nothing from home. Could it be possible that Maggie no longer loved him?

In the meantime Mr. Llewellyn had received two letters for Matthew which he forgot to deliver. At last Reese said that he would stay another month and then go home whether he heard from Maggie or not. This conclusion made Mr. Llewellyn aware that something must speedily be done if he would retain the man. Offers of higher wages and greater privileges were declined, so one day when the month had nearly expired, Mr. Llewellyn came home from the post-office with startling and heart-breaking news. He told Matthew that he had received a letter from the landlord of the ship inn at Newport, saying that Maggie had died after a short illness, and had sent her love and inclosed some little keepsake to Matthew. This seemed to settle it, and Reese, broken in spirit, with all his hopes and ambition crushed, agreed to remain. He took up

"A glance at the letters revealed the whole cruel plot"

the steady routine of life with unabated faithfulness—but apparently having no interest in man or woman. Month after month and year after year passed.

Llewellyn's Conscience

goaded him, the disconsolate young man working with the fidelity of a dog hurt him. He took a trip home to Wales, leaving all in charge of Matthew, and returning with a wife, found everything had prospered even better than when he was there. He tried to ease his guilty conscience by advancing Matthew's salary and giving him opportunities of buying and selling and raising stock on his own account. Reese throve like Jacob under Laban, and year after year laid by money for which he had no use, until in 1843 Mr. Llewellyn suddenly died, leaving his wife, but no children, and a will vesting one third of his estate in Matthew Reese. Matthew was now a rich man, sixty-three years of age and lonely as a winter night at sea. Mrs. Llewellyn and he carried on the ranch for some few years, until one day the widow decided that she would go back to her own people near Abergavenny. She offered her share of the estate to Reese upon such terms that

"'Whispers the o'erfraught heart and bids it break'"

he was able to accept them and pay her at once. But this arrangement left him at sixty-six more alone than ever, as destitute of relations as Melchizedek. The men must be fed and the house cared for, so a housekeeper was secured, who undertook a renovation of the establishment. In moving an old bookcase, there fell down from behind it a package of yellow faded letters. With womanly curiosity she looked them over. Some were addressed by her employer's hand to "Margaret Atherton," some in a woman's handwriting bearing Mr. Reese's name, but every one was sealed. The maid hurried to Mr. Reese with them. Sitting at his desk, a glance at the letters revealed the whole cruel plot which had blighted two faithful lives. Oh, the pity of it! He put his old gray head down upon the desk and sobbed like a child.

Early next morning Mr. Reese ordered his horse, rode straight to Cape Town, offered all his holdings at such prices that he found buyers at once, and with bills on London for the proceeds boarded a ship which was to sail for the Mersey within twenty-four hours.

Newport Once More

Once at Liverpool he posted to Newport. But fifty years had wrought some changes. It was not the Newport of his boyhood days. All the old proprietors and habitues of the ship inn were dead and gone. At length, from an old man who had known both Reese and Maggie in the long ago, he learned that Miss Atherton had waited years, hoping to hear from him. She became low-spirited, anxious and always wanted to be near the ships and the water. And after she had saved a little money, she went somewhere up on the hill toward Caerleon, three miles off, and took a small cottage, where she would always be in sight of the sea and where she could watch for the return of her sweetheart.

"But Lor' bless you, Matt, this was over forty years ago—we be's old men now," and a far-away look came into the old man's eyes and his lips quivered. Reese heard no more, but, turning, began to climb the hill toward Christ Church.

Reunited

After many inquiries when he reached the high land, he came in the early evening to a cottage. At the door stood a woman, gray, bent, feeble, casting a far-away look over the Bristol Channel. Maybe his own sight was failing, for he could not recognize the comely damsel to whom he had waved good-by as he led away Llewellyn's horses, and whose memory he had carried in his heart of hearts during all the weary years since that far-off day of his early manhood. But something in the motion of the head seemed familiar, and coming close up to her, he whispered, "Maggie!"

"Fifty years of Europe" may be worth "a cycle of Cathay," but five minutes upon the step of that little cottage with those faded letters before them, outweighed the heartaches of half a century.

For that brief time they forgot the weary drag of five times ten years. They saw not the gray hair, nor the frail step, nor the wrinkled face. They were away upon the top of the "Delectable mountains" where the voice of the turtle is heard in the land, and the world is ever young.

But the day is drawing in—the day of life itself is far on the ebb tide—they would be married ere some mischance occurred. They hastened to the city, and while he ransacked the town for a wedding outfit which would please a princess, Maggie stayed at a hotel. Great joy, like great grief, sometimes "whispers the o'erfraught heart and bids it break." When Mr. Reese was shown up to her parlor the next evening Maggie Atherton seemed to be sitting in state surrounded by silks and linens and lingerie, a ribbon across her lap, a beautiful lace in her hand, a smile upon her dear old face, but she herself had "crossed the bar."

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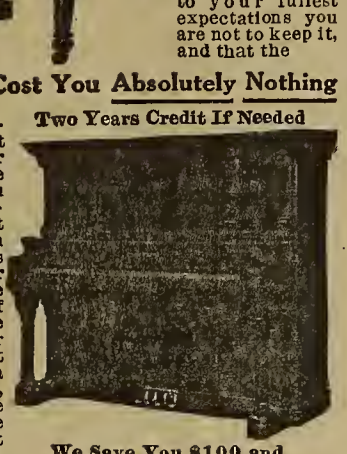

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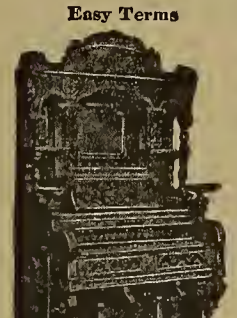

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St. Valentine's Day

How the Custom of Sending Valentines Originated

By Emma L. H. Rowe

THE quaint custom of remembering one's friends and sweethearts with messages of good-will and love is perpetuated from year to year, and gains rather than loses in popularity.

Beyond the obvious fact that St. Valentine's Day was named for a saint, little is generally known of the origin of the custom of sending forth valentines. There are two common versions, and the reader may take his choice.

The Roman Legend

St. Valentine was a priest of Rome, a miraculous healer, martyred in the third century. According to the authorized Roman legend, he was arrested and thrown into prison at the instigation of the Emperor Claudius. Attempts were made to win him back to idolatry. These efforts being unavailing, after long imprisonment St. Valentine was finally beheaded on the Flaminian Way, February 14th.

The simple version, which seems believable, is that the saintly Valentine, accustomed to doing good deeds and kindly acts before his imprisonment, tried to keep up the good work even while in prison. He constantly sent messages of comfort and cheer, good-will and love to his friends up to the time of his sad death. His friends, in honor of Valentine's memory, thereafter sent out messages of love on February 14th.

The Other Version

equally plausible, is that St. Valentine, good and saintly as he no doubt was, had nothing whatever to do with the custom of sending messages. It was chance alone which connected his name with the custom. There was a practice in ancient Rome during the month of February to celebrate the Lupercalia, feasts in honor of Pan and Juno. One of the ceremonies took the form of a sort of lottery. The names of young girls were put into a box. The men drew from this box haphazard. The early Christian Church disapproved of this form of lottery, even as we now find modern churches disapproving of lotteries. An attempt was made to eradicate the evil or at least to change it to a less personal form. Names of saints were placed in the lottery box instead of those of the young women. As the festival of the Lupercalia began about the middle of February, and as St. Valentine's Day (or rather his death) happened to be at this particular part of the month, the priests simply chose the day for the celebration of the new feast.

As one can see, the substitution of saints' names by the priests was not entirely successful. The custom continued, in exaggerated forms. Not only did the men choose maids, but the maids soon began to choose the men—and those chosen were called valentines.

In England and Scotland

St. Valentine's Day was celebrated by the young folks, something in this manner: An equal number of maids and bachelors met at one house. Each man wrote his name upon a slip of paper and dropped it in a box; each maid wrote her name upon a slip of paper and dropped it in a second box. Then each drew a slip from the box of the opposite sex. This resulted in a double valentine system, rather confusing. Each person not only drew a valentine, but was a valentine as well. Each man, however, was supposed to cling more tenaciously to the valentine that he had drawn, rather than to the valentine that had drawn him. The custom included "treats," to be given by the men to their valentines—parties, feasts, etc. The ballots were worn for several days by the more enamored of the swains—whether close to the heart or upon the surface of the waistcoat, rumor does not state specifically.

Valentines for the Married People

Another variation of the custom included the married as well as the unmarried people, and a gift of some kind was deemed obligatory from the chosen to the choosing, as a sort of forfeit or "relief." A note from an old diary is rather illuminating on this particular point:

I find that Mrs. Pierce's little girl is my valentine, she having drawn me; which I was not sorry for, it easing me of something more that I must have given to others.

The poor man evidently felt that a simple gift which would please a child would be far less exhausting to his purse than a gift which would have to please a mature young woman or, even still worse, a more mercenary matron.

It appears that either a "relief" or release gift was the general expectation or the strong likelihood of the valentine being a permanent affinity.

Some even went so far as to think (but this was mainly amongst the common people) that Cupid was abroad on St. Valentine's Day, and in some way bound together the futures of the one choosing and the one chosen.

Old Superstitions

Some of the notions regarding St. Valentine's Day and the methods of divination seem to be confused with those of Hallowe'en or vice versa. It was thought that the first unmarried person of the opposite sex whom one met on St. Valentine's Day would be one's permanent valentine, husband or wife.

The following quotation exemplifies this:

Last Valentine, the day when birds of kind
Their paramours with mutual chirpings find,
I early rose just at the break of day,
Before the sun had chased the stars away;
A-field I went, amid the morning dew,
To milk my kine (for so should housewives do).
Thee first I spied—and the first swain we see,
In spite of Fortune, shall our true love be.

Another Quotation

this time from a young girl's published comments, is very amusing, and includes several methods of divination.

Last Friday was St. Valentine's Day, and the night before I got five bay-leaves and pinned four of them to the four corners of my pillow and the fifth to the middle, and then I dreamed of my sweetheart; Betty said we should be married before the year was out. But to make it sure, I boiled an egg hard and took out the yolk and filled it with salt, and when I went to bed, ate it, shell and all, without speaking or drinking after it. We also wrote our lovers' names upon bits of paper and rolled them up in clay, and put them into water; and the first that rose up was to be our valentine. Would you think it? Mr. Blossom was my man. I lay abed and shut my eyes all the morning, until he came to our house, for I would not have seen any other man before him for all the world.

These little tricks of the day are certainly as potent now—as they ever were.

And the human heart, remaining the same through all the centuries, the messages of love and good-will on St. Valentine's Day are sure to be received with much pleasure, and let us hope reciprocally.

Interesting Paragraphs

BEES were in America when the white man first came.

India now ranks second to our own country in the production of cotton.

Volcanoes have been known to remain extinct for several hundred years and then become active.

Electric power is to soon be furnished the city of Detroit, Michigan, from Niagara Falls.

A great deposit of pure tantalum ore has recently been discovered in the Ural Mountains.

Radium casts a glow that gives a violet tinge to glass and porcelain, and a yellow hue to pure white paper.

The Eskimo men will not permit the women of that strange tribe of people to use tobacco in any form.

It is estimated that more than one thousand aëroplanes have been built in France, and most of these are practical.

A low automobile has been constructed by a practical French mechanic, which will be used by invalids. It is very popular.

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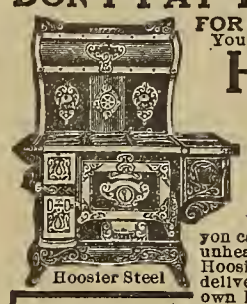

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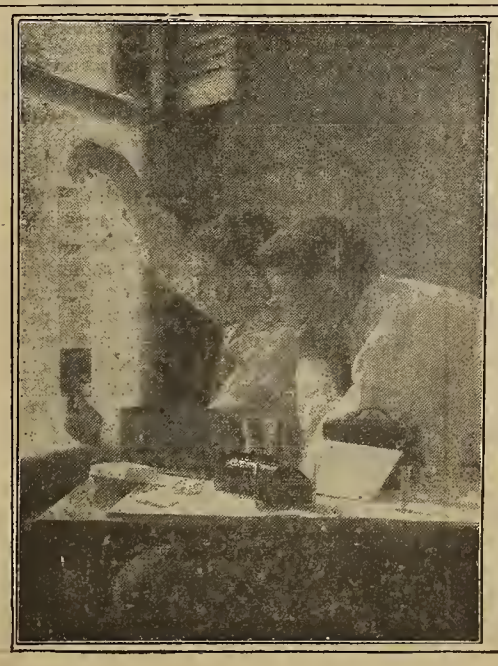

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Home Clothes for Home Women

Designed by Grace Margaret Gould

After all, there is no other dress that a woman should give quite so much thought to as her dress for every-day wear. A smart-looking, yet plain, house dress, a dress that a woman can slip on in the morning and yet keep on all day if necessary, is the type of gown which must be thought over carefully before its design is selected.

Just the right sort of model for this type of dress is illustrated on this page in pattern No. 1703. It is cut in an unusual number of sizes. To make the dress: Form the small plaits in the fronts and the plaits in the sleeves by bringing the corresponding lines of triangle perforations together. Join the fronts and back at the shoulder seams. Form the broad shoulder plaits, back and front, by bringing the lines of triangle perforations together. After the plaits have been pressed, join the fronts and back of the waist at under-arm seams. Gather the waist at lower edge between double crosses. Join the belt to the lower edge of the waist as notched. Match centers of waist and belt at the back and edges in front. Bring the large perforations in belt to under-arm seams.

Join the side and back gores of skirt as notched. Take up the darts at the waist by bringing the lines of small round perforations together.

Gather the back gores at upper edges between double crosses. Join the skirt to the lower edge of the belt as notched.

Now join the panel to the front edges of the waist and skirt, matching the notches.

Turn hems on front edges of panel by notches. Join collar to neck as notched. Lap fronts, matching center lines of large round perforations, and fasten invisibly from neck to waist.

Turn a three-inch hem on skirt by line of large round perforations. Baste as near lower edge of skirt as possible and press before turning up hem.

Close the dart at back of sleeve. Then join the front seam by notches. Join cuff to lower edge of sleeve. Gather the sleeve at upper edge between double crosses.

Before pinning sleeve in arms-eye pin the shoulder plaits in waist, which extend over sleeves. Place front seam in sleeve at notch in front of waist and bring notch in top of sleeve to shoulder seam. Pin plain part of sleeve in arms-eye, draw up gathers to fit remaining space, distribute fullness evenly and pin before basting.

No. 1520 — Double-Breasted Tucked Waist

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, four and three eighths yards of twenty-four-inch material, or two and one half yards of thirty-six-inch material. Figured madras is pretty

No. 1700—Dressing-Sacque With Sailor Collar

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and three fourths yards of twenty-seven-inch material, with one yard of contrasting material

No. 1590 — Plaited Tailored Shirt-Waist

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, three and seven eighths yards of twenty-four-inch material, or two and one fourth yards of thirty-six-inch material

There never is a time when a woman does not need an extra shirt-waist, for nothing helps along a rather small wardrobe like a stylish tailor-made waist. Illustrated on this page are two designs which, though very simple, are also very smart. No. 1520 is a double-breasted design. It fastens in front at the left side and groups of tucks give the desired long lines, while three-pointed tabs make an attractive finish.

There are a quantity of materials suitable for a waist in this style. Plain and figured silks, when one wants an extra nice waist, Henrietta or challis for cool days, and madras and gingham for warm days, are all good serviceable fabrics. It is pretty to have the opening, the collar and the cuffs in a contrasting color. The other design, No. 1590, is for a plainer shirt-waist, one that will be especially suitable for morning wear. The back is plain, while four full-length tucks finish the front, where the waist fastens through a hem.

A design for a dainty, pretty dressing-sacque is also shown on this page in pattern No. 1700. A particularly effective way to make this would be to have the sacque itself of plain Henrietta or flannel with the belt, collar and cuffs in the same material or a Persian or figured design.

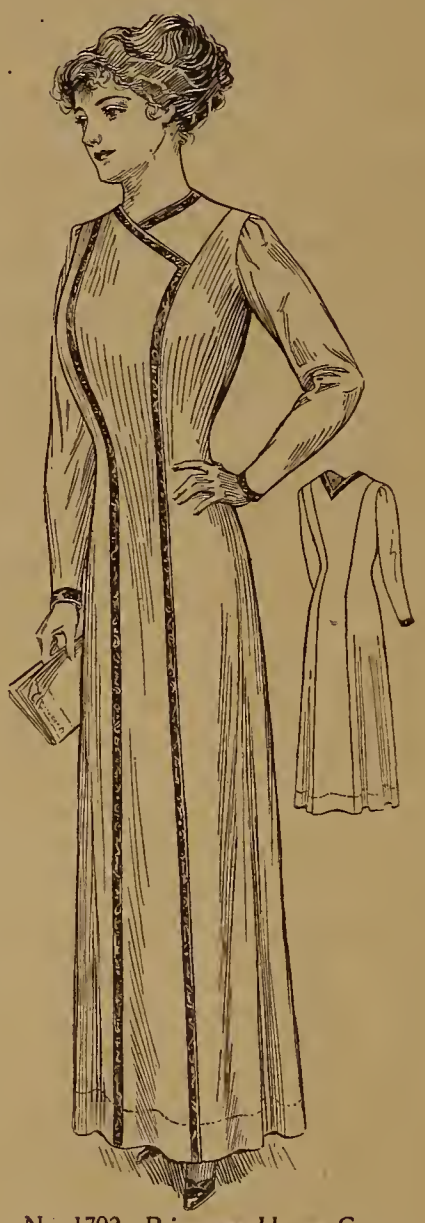
The woman who does not need a house gown, but wants a trim wrapper for morning wear, will find the design in pattern No. 1702 a very practical one. It does away with the necessity of a collar and tie and even the belt. It is cut on princesse lines, however, which make it look well.

Another design for the busy housewife is also shown on this page in pattern No. 1450. A work-apron with adjustable sleeves is always a necessity for the woman who likes to be daintily dressed in the afternoon and on Sundays, but who must attend to the work in the kitchen. This apron can be slipped over the nicest dress and will protect it from dust or spots.

A high-neck and long-sleeve nightgown is often a necessity, even when the weather is not extremely cold. Just because a woman needs to have one of these comfortable gowns is no reason why it should not be attractive. If it is cut on good lines and trimmed with a little lace, it is sure to be quite pretty. Lawn, muslin and cambric are regulation materials, but the woman who needs a really warm nightgown would do better to select flannel. A good design is shown in pattern No. 1253.

No. 1703—Morning Dress With Panel Front

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, eight and one fourth yards of twenty-seven-inch material, or six yards of thirty-six-inch material. It is best to select a wash fabric



No. 1702—Princesse House Gown

Pattern cut for 34, 36, 38, 40, 42, 44 and 46 inch bust measures. Quantity of material required for medium size, or 36 inch bust, nine and three fourths yards of twenty-four-inch material, or six and one fourth yards of thirty-six-inch material. Use braid for trimming

No. 1450—Work-Apron With Adjustable Sleeves

Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, six yards of twenty-seven-inch material. The sleeves are buttoned in at the shoulders but may be omitted if preferred

No. 1253—Sacque Nightgown

Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, seven and one half yards of twenty-two-inch material, with one and one half yards of edging for trimming

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THE HOUSEWIFE'S CLUB

EDITOR'S NOTE—Monthly we give prizes of $2.00 for the best description (with rough sketch) of an original home-made household convenience or labor-saving device, and $1.00 for the third best or an that can be used. ¶ We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, an not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. ¶ All copy must be in by the third March, and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copy, as no manuscripts will be returne The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio.

FOR Frosted Feet—Take a quantity of slaked lime and mix with lard to a thick paste. Apply to the affected parts, which should be wrapped in a linen cloth. If this is done every night before retiring, it will do wonders. It has helped me when other remedies have failed. C. M., Pennsylvania.

To keep water barrels from bursting in cold weather when filled with water, insert a corn-stalk until it reaches the bottom and put a weight on top. The air will circulate freely through the pith of the stalk and thus prevent barrel from bursting.

E. A., Kentucky.

To Poach Eggs—Into simmering, slightly salted cream, carefully drop (so as not to break) one egg at a time. Dip cream up over the eggs. Remove before hard and place upon individual pieces of hot buttered toast, then turn over remaining cream.

C. C., California.

Delicious Sauce—Mix well one egg, one cupful of sugar, one tablespoonful of butter; then add slowly, stirring all the time, two small cupfuls of boiling water. Stir constantly and boil slowly until it begins to thicken; then remove immediately from fire. Season with nutmeg.

Miss E. C. P., Virginia.

When cutting butter cover the knife with a piece of oiled paper. This makes a clean smooth cut. Mrs. C. E. N., New Hampshire.

To wash new muslin curtains, which are generally full of lime, steep them overnight in water in which salt has been dissolved. The salt brings out all the lime, saving pounds of soap and hours of labor.

Mrs. C. E. N., New Hampshire.

Chocolate or cocoa stains will entirely disappear if they are first washed in cold water, and then in soap-suds.

Mrs. J. L. S., Missouri.

The following sketch shows a bed for a tiny tot. It can be made narrow enough to pass through a door and any length desired. Make the distance between the top and side strips twelve inches. Take a piece of inch

Home-made bed for young child

mesh poultry-netting twelve inches wide and fasten all around. Tack poultry-netting firmly over the bottom, which serves quite as well as springs. With silkoline or some other suitable goods make a curtain and fasten all around the top rail and let it come within one inch of the floor. Line the inside. The little one is thus protected from drafts. The top rail and wire may be left off one side and the open side turned next to the mother's bed at night and in daytime turned to the wall. Mrs. M. B., Virginia.

Cheese-Omelet—One cupful of bread-crumbs soaked in one cupful of sweet milk, one beaten egg, one half cupful of grated cheese. Mix well, turn into hot buttered frying-pan. When brown, turn carefully and let brown on other side. Take up on a hot dish and serve at once.

Mrs. R. B., Minnesota.

To clean painted walls or woodwork, use baking-soda. Dampen soda and rub on surface to be cleaned until dirt is loosened. Then wash off with soap-suds.

Mrs. C. R. W., Illinois.

Creamed Halibut on Toast—One half pound of smoked halibut, one cupful of cream, butter and toast. Cut halibut in small pieces, cover with cold water, let boil two or three minutes to freshen it. Drain off water and pour cream over fish, adding a small piece of butter and a little pepper. Toast white bread, and butter it while hot and as soon as the halibut has become heated through. After the cream has been added, serve it on the toast.

Mrs. L. T., Washington.

To Get Rid of Red Ants—Sprinkle sulphur where the ants abound, and they will soon disappear. Then make little muslin bags, fill with sulphur and hang up in cupboards or place on shelves where the ants are likely to come, and it will keep them away. New sulphur should be added occasionally. Mrs. C. I. B., Vermont.

Husk Mats—Nice floor-mats or rugs can be made from corn-husks. Soak or scald the husks first, then braid them in a common three-strand braid, adding a husk each time you bring a strand forward.

Sew together in any shape desired. Two strands of the husks may be dyed and consequently look much prettier.

Nice table-mats may be made in the same manner, only tear the husks much finer.

Keep the husks moist while working with them. Mrs. J. L. R., Ohio.

Before placing potatoes in the oven to bake, grease each one with fryings or butter, and they will cook much quicker and the skin will peel off almost as thin as tissue paper. Mrs. D. M. M., Pennsylvania.

Cream Salad Dressing—Four tablespoonfuls of butter, one tablespoonful of sugar, one tablespoonful of flour, one teaspoonful of salt, one cupful of sweet milk, one half cupful of vinegar, three eggs, one teaspoonful of mustard, a little cayenne pepper. Boil the mixture and when cold bottle it. When used, thin with a little whipped cream.

Directions for mixing: Put butter in a saucepan, add flour and stir until smooth, then add milk and stir until it begins to boil. Place saucepan in a larger one filled with water and let it cook a few minutes, stirring occasionally so that it will not be lumpy. Beat eggs and add to them salt, pepper, sugar, mustard, which have been well mixed dry. Add vinegar, mix thoroughly and add to the boiling mixture. Stir until as thick as custard, then strain. J. S., California.

Half a clothes-pin is a quick remedy for a rattling window on a windy night.

E. U., New York.

When Cream Will Not Whip—If one has difficulty in whipping cream, break into it the white of an egg, then beat the two together. The result will be highly satisfactory. F. M. S., Illinois.

For Earache—Toast half of a cracker brown, soak it in hot vinegar until soft, place in a cloth and hold over the ear, covering all with a hot-water bottle or hot salt-bag. Mrs. E. C., Indiana.

Steamed Fig-Pudding—One cupful each of molasses, chopped suet and milk, two eggs, three and one fourth cupfuls of flour, one pint of chopped figs and one teaspoonful each of soda and cinnamon, one half teaspoonful of nutmeg. Steam over boiling water till done. Serve hot with the following sauce:

Beat together one half cupful of butter and one cupful of powdered sugar, then add one cupful of sweet cream or rich milk, flavor as desired and just before serving place dish in hot water and beat until creamy. Mrs. J. B. C., Pennsylvania.

When baking cakes place a pan of cold water in the oven and the cake will be much nicer. M. A. M., Ohio.

Pork-Cake—Boil one pound of finely-chopped pork in one cupful of hot water for two minutes. Add two cupfuls of sugar, one cupful of molasses, two teaspoonfuls of cinnamon, one teaspoonful each of cloves, nutmeg and allspice, and two cupfuls of raisins. Dissolve two teaspoonfuls of soda in one fourth of a cupful of sour milk. Add and stir in flour until thick enough to drop from spoon. Bake one hour.

E. E. F., Pennsylvania.

Baked Apples Which Retain Their Plumpness—To prevent apples from having a shriveled-up appearance when baked, place them first in a stew-pan, cover with boiling water and boil rapidly until the apples start to get tender. Remove to a baking-pan or roaster, sprinkle with sugar and cinnamon, put a lump of butter on the top of each one and bake until done. They will not only look better, but will taste better, and are especially delicious eaten with a sauce or plain cream. Mrs. J. N. B., Kansas.

Home-Made Lemon Essence—I have found the following recipe a great saver of money, and the product far superior to the kind of extract sold at the store. Hope the housewives of Farm and Fireside will try it. Place three ounces of pure alcohol in a wide-mouthed bottle with good cork and add the grated rind of lemons as you use them. When the bottle is full empty into a cloth and squeeze out all the liquid possible. Put it back in the bottle, add two ounces more of alcohol and fill with grated peel again. Repeat the straining process, add another ounce of alcohol, fill and strain for the third and last time. It usually requires about two dozen lemons to furnish flavor for the six ounces of alcohol. Orange-extract and delicious fruit coloring of crushed berries I make in the same way.

Mrs. J. B. C., Pennsylvania.

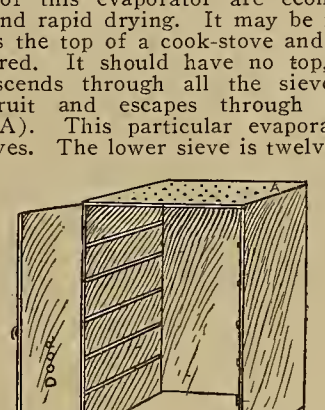
When making lard add two tablespoonfuls of baking-soda to each eight-gallon kettle of fat. It will cook more easily and the lard will be whiter. All grease comes out of the cracklings. E. A., Kentucky.

To remove ink-spots from linen, take a lighted paraffin candle and allow it to drip on the ink-spot. Take a pinch of cream of tartar, rub it into the warm paraffin, roll up the linen and allow it to remain for a few days. Then open it out and pour boiling water through the stain and wash in the usual manner. I know this will remove old ink-stains from linen, for I have tried it with entire success. Mrs. L. V., Washington.

Marble Cake—We have used this recipe for years in our family. One and one half cupfuls of white sugar, one half cupful of butter, one half cupful of sweet milk, one half teaspoonful of soda and one teaspoonful of cream of tartar, the whites of four eggs and two and one half cupfuls of flour for the light part, while the dark is made of one cupful of brown sugar, one half cupful of butter, one half cupful of molasses, one half cupful of sour milk, one half teaspoonful of soda, one teaspoonful of cream of tartar, two and one half cupfuls of flour, the yolks of four eggs and one half teaspoonful each of cloves, allspice, cinnamon and nutmeg. Drop in the pan a spoonful of the light mixture and then a spoonful of the dark, and so on until it is full. Then bake.

Mrs. R. F., New York.

Home-Made Evaporator—The two best points of this evaporator are economy of space and rapid drying. It may be made as large as the top of a cook-stove and as high as desired. It should have no top, as the heat ascends through all the sieves filled with fruit and escapes through the top sieve (A). This particular evaporator has five sieves. The lower sieve is twelve inches



Practical home-made evaporator

above the stove. The upper part of evaporator is of tin and the lower part of galvanized iron. The holes, or ventilators (B), admit cool air, which is heated as it ascends and carries the moisture from the fruit with it. The sieves, which are made of perforated zinc with a small wooden frame around the edges, should be moved higher or lower as they dry the fruit.

Mrs. F. V. C., Ohio.

The white of an egg can be whipped more quickly by adding to it a teaspoonful of cold water. N. B. L., Ohio.

Cleaning With Gasolene—We have always used gasolene in our family for cleaning purposes, but were always bothered by a ring forming around the edge cleaned. One day while away visiting I spilled some grease on a pink albatross dress. I was in despair about cleaning it, for I knew a ring would be left from gasolene almost as bad as the original spot. My friend told me to put a little pinch of salt into the gasolene. I did so with the result that there was no spot or ugly ridge. I have cleaned all kinds of goods this way since and always with the best success. M. B. G., Wisconsin.

A teaspoonful of lemon-juice to a quart of water will make rice white and keep the grains separate when done.

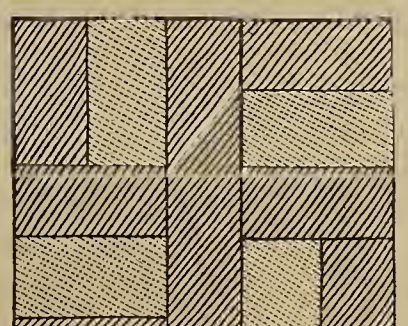
Mrs. J. A. S., Ohio.

Swastika Quilt Design—In making the quilt, use two materials of different colors—one light, the other dark. Set the quilt together with strips one fifth of the width of the block—that is, if the blocks are ten inches square, the strips should be two inches wide.

A—Sew the dark and the light strips together systematically as shown.

B—Sew this long strip to A. Then sew C to B. C is put together the same as A, but is reversed.

Mrs. E. C. D., Virginia.



Something unusual in the way of a quilt design

Empress of Russia's Brine—This far-famed, old-time pickle, which is said to give its high value to Russian pork, is prepared as follows:

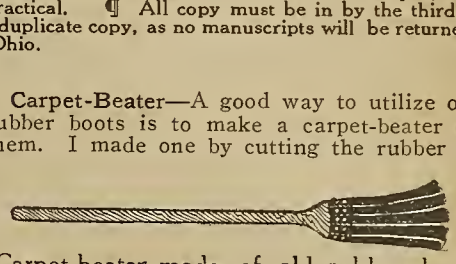
Boil in three gallons of pure spring-water two pounds of powdered loaf sugar, three ounces of saltpeter and six pounds of common rock-salt. Boil gently over a slow fire; skim while boiling and when quite cold pour over the meat to be pickled, taking care to cover entirely. Meat should be washed, drained and wiped before putting in the brine. Small pork will take four days, and hams for drying and smoking two weeks, unless extra heavy.

This pickle may be used repeatedly by reboiling with a small addition of its ingredients. R. E. U., Porto Rico.

Two Uses for Paraffin—If a piece of paraffin is grated and put in the water in which clothes are boiled, it will make them whiter and they will not require much rubbing.

When making starch, add a small piece of paraffin before cooking. It will prevent the irons sticking and give a beautiful gloss to the clothes. Mrs. M. N., Illinois.

Carpet-Beater—A good way to utilize o rubber boots is to make a carpet-beater them. I made one by cutting the rubber



Carpet-beater made of old rubber boo

strips and nailing them securely to an o broom-handle. This rubber carpet-beater every bit as good as the ones you buy ar has been very useful to me. E. B., Nebraska.

To Prevent Prints Fading—Before washi the dress dip it in a pail of salt-water ar let dry. If this is done before the dress washed the first time, the process need n be repeated when the dress needs a secon cleaning, as the salt-water sets the colors.

Mrs. E. S. B., Virginia.

A good preparation for softening the han is made as follows: Soak half a pound oatmeal overnight in a quart of warm wate strain and add a teaspoonful of lemon-jui and a teaspoonful each of olive-oil, ros water, cologne and glycerin.

E. I. L., Wisconsin.

A handful of salt stirred into the la rinsing water will make the clothes le liable to freeze in bitter cold weather ar will keep them from sticking to the lines.

E. M., New York.

A little suggestion for women working offices: Oversleeves of the ordinary gen are very unsightly and for that reason a often discarded when cleanliness an economy cry out for them. If they are mad of the same material as the waist (particu larly if it is colored) they are not at a conspicuous, and they are very easily mad and easily kept clean. A tight-fitting sleev pattern can be used, and if the oversleev comes well above the elbow it can in mo cases be kept on without pinning.

"Ajam," Pennsylvania.

To Cook Round Steak—Chop into a pour of steak about one half cupful of flour. Th juice in the meat will absorb the flour. Tr out in a frying-pan a bit of suet, then put i the steak and cook on both sides unt brown. Take out meat, place in anothe pan, cover with a tablespoonful of water an let simmer one hour on the back of th stove. Pepper and salt before taking ou Serve with gravy. This is delicious. Th meat is so tender. This is an excellent wa to cook tough steak.

Mrs. J. A. F., New York.

Matting will last longer and look better as soon as tacked in place it is varnishe with a clear varnish. It can then be wipe up like linoleum and does not split or brea so easily.

Mrs. J. J. O'C., Washington, D. C.

One method of removing mildew is to ru the discolored spots with lemon-juice an then with salt; another is to wet them wit warm water, rub on a little soap, an sprinkle with powdered French chalk an salt. Dry in the sun and repeat the trea ment if necessary. If these methods fai bleaching water can be resorted to. simple bleaching water is made by boiling teaspoonful of borax in a quart of water. very strong one is made by mixing one ounc of chlorid of lime and one ounce of washing soda and pouring over the mixture a quart o boiling water. Stir well and let it stand fo a day before using. Strain through fin muslin and bottle. Mrs. L. B., New York.

Steamed Graham Pudding—To two cup fuls of Graham flour add one cupful o molasses, one cupful of milk, two teaspoon fuls of soda dissolved in a little milk, butte the size of a walnut. Mix thoroughly, the add one cupful of chopped raisins. Th raisins must be floured a little. Steam thre hours. If you make this once, you will mak it many times. Mrs. E. W., New York.

If you buy butter enough for a week o two, put it in a stone jar, press it down wit a potato-masher, take a handful of salt an sprinkle on top of the butter; then pour i a cupful or two of cold water. It wi keep sweet, no matter how warm the weathe is, so long as it is covered with this salt water. It will not make the butter salty When needed take up enough for the tabl at a time.

Mrs. J. J. O'C., Washington, D. C.

To Keep Eggs Fresh—Wrap each strictl fresh egg in a sheet of paper ("butter" pape is best) and place in ordinary shoe-boxes Each one will hold about two or three doze eggs. Fill each box, tie up and date i putting them away as they are filled. Kee in a cool place, the same as you keep you canned goods, but not where it is frosty Turn over each box once a week or oftener Use the oldest first, going by the date on th box. The eggs will keep fresh many months

Mrs. R. B., Kentucky.

Baked Indian Pudding—Scald one quar of milk, add to it six teaspoonfuls of corn meal and cook until the meal ceases t settle. Add to this one cupful of molasses one teaspoonful of ginger and a little salt Stir well. Just before putting into the oven add one cupful of cold water. Bake slowly one hour. This does not need sauce.

Mrs. E. B. W., New York.

OUR YOUNG FOLKS' DEPARTMENT

Conducted by Cousin Sally

Good Work by Our Girls and Boys

The Doll I Love Best

THERE is a doll in our home,
Whose appearance is a sin
To any decent household
That has a doll therein.

Her hair that was so curly
Is straight and scant, 'tis said,
Her eyes that were so merry
Are sunken in her head.

Her dress, once sweet and dainty,
Her slippers and her hat
Are sadly torn and ragged
And soiled—but what of that?

I love this little dolly
Better than all the rest,
I would not have her whole and new,
For this way she seems best.

And as I rock her gently
And kiss her good-night, too,
I say, "Of all my lovely dolls,
None is so dear as you!"

ELLEN HOWARD, Age Fifteen,
Baraboo, Wisconsin.

Let's Pretend

LET's pretend all sound is music,
Let's pretend all work is play,
Let's pretend that we are happy,
Sorrow'll come another day.

Let's forget the rain that's over,
See the rainbow in the sky,
Let's pretend success is coming
As we see the clouds drift by.

Let's pretend; life's all pretending;
Let's pretend we'll win the fight,
Let's pretend. God helps pretending
If it only helps the right.

RUTH PATRICK, Age Fifteen,
Randell, Kansas.

Our Baby

OUR baby is a darling,
Her eyes are deepest blue,
Her cheeks are like June roses,
Her tears like sparkling dew.

ELLIE MYERS, Age Eleven,
Charleston, South Carolina.

Off to School

OFF we go one by one
Slate and books in hand,
Happy and glad that school's begun
And school-bells ring over the land.

Mother is watching alone at the door
While we run fast along.
Lessons are learned, one, two, three and four,
And our ears catch the sound ding-dong.

ELEANOR S. CANTER, Age Nine,
Charlotte Hall, Indiana.

Baby

OUR baby is the cutest one
That ever you did see,
She upsets all the little cups
While we are playing tea.

She crawls along the floor so fast,
While trying to play horse,
And bumps her darling little head
Against everything, of course.

With all the mischief baby does,
We love her just the same,
And sunshine's always in our home,
Since our dear baby came.

LOUISE BECK, Age Ten,
Hicksville, Long Island.

When the Leaves Turn Red

"COME, little leaves," said the wind one day,
"Come o'er the meadows with me and play;
Put on your dresses of red and gold,
For the summer is gone, and the days grow cold."

As soon as the leaves heard the wind's loud call,
Down they came fluttering one and all;
Over the brown fields they danced and they flew,
Singing the sweet little songs they knew.

RACHEL KEPLER, Age Thirteen,
Knoxville, Maryland.

The Young Chief of the Enchanted Mesa

FAR, far away in the hot country of Mexico is a high flat-topped plateau called the Enchanted Mesa. At present it is uninhabited, but far back in the dim past it sustained a small tribe of Indians who sought safety on its almost inaccessible heights from a neighboring tribe of strong and hostile Indians. The chief of this small tribe had a son of twelve whose name was Red Wing. He was very brave and kind to the people over whom he was some day to reign.

One day, when everyone thought their enemies were far away, Red Wing crept down upon the plain and wandering far away did not know that night was near until he heard the solitary call of the evening bird in the cool bushes. But hark! in the quiet evening Red Wing heard men's voices, and looking around saw hundreds of Indians lying behind the bushes awaiting the approach of night. Red Wing must give notice to his people. So creeping along over the ground he was not seen for some distance, when finally he was spied, a tiny speck moving slowly over the ground carrying a warning to his people. Knowing that secrecy was now of no use, the Indians, with a yell, started after Red Wing, but he was able to make the Mesa. Beginning the tedious ascent of the walls, he climbed to the top just as an arrow from below struck him. Exhausted, he fell over onto the ground. The Indians then thinking they had killed Red Wing before the alarm was given, began silently to scale the walls, hoping to surprise the sleeping village. But Red Wing was not dead. He soon arose and awakened the warriors, who rushed to the gap and soon beat off their enemies. Then they rushed in search of their young chief, whom they found lying unconscious behind some bushes. Two arrows were broken off in his body, but on his pale face upturned to the cold moon there was a smile instead of any sign of pain.

Red Wing had saved his people and was content to fall asleep.

HARTER F. WRIGHT, Age Fifteen,
Sims, Virginia.

Cousin Sally's Letter

DEAR GIRLS AND BOYS:—
I cannot begin to tell you what a great big help your letters have been to me. All the good, kind things you have said about this page of ours have been deeply appreciated and I feel very happy indeed to know that my efforts have met with success. Perhaps you may not realize how much your little messages of appreciation mean to me and how they inspire me to do still better work and bigger things.

It was most interesting to me to receive from my boys and girls so many varied opinions of our page. I was glad to get your frank, honest opinions—they are just what I wanted. One comment from one of my girls, and one which I was ever so glad to receive, was that our stories had been a little too young. She was about sixteen years of age and preferred older stories and I have been thinking that perhaps her criticism is right. What do you older cousins think about it? I can easily overcome this by varying the stories, running in one issue a story for very young folks and printing in the next a story for older boys and girls.

So many new readers have been enrolled in our club. I wish those of you who have been putting it off would join to-day and find out what it means to be a member of this splendid club of ours. You all want to become just the best men and women the world has ever known—now, don't you? Then join us in our good work and see how the club will help you. Our club stands for truth, honor, kindness—kindness to everybody, as well as to dumb animals; loyalty to your country, your parents, your schoolmates; courage, sincerity and everything that is good. We members believe in doing a good deed whenever we can and in saying kind things about people. We believe in being cheerful, always remembering that it is the courageous boy and girl who smiles when everything goes wrong and when other people are cross and irritable. We do not believe in gossiping or finding fault with people. Instead we look for their good points and we are trying our best to think good thoughts and say pleasant things. We want our faces to radiate sunshine, happiness, love and goodness and we are trying to keep out all the mean thoughts, which we call "weeds," and plant only beautiful thoughts, which we call "flowers." So, very often now, I shall ask you how the flowers are and if you have forgotten to pluck out the weeds.

I had hoped to write a longer letter, but space will not permit, and then I thought you might like to see your own work this time.

Write to me soon and don't forget about our club button, which costs only five cents.

Faithfully always,
COUSIN SALLY.

Autumn Leaves

THE sunshine is warm and hazy,
Brown is the ripening corn,
And the merry harvester's calling
Is heard in the early morn.
Up from the farmer's cottage
In the morning air so cold
Wavers the coiling smoke-wreath
When the leaves turn red and gold.

Under the ruby and amber
Of the flaming forests fair
Autumn is dreaming, dreaming
In the clear, cool, fragrant air.
The nuts are dropping slowly
And before the days grow cold
The squirrels are filling their storehouse
When the leaves turn red and gold.

ELOISE CASE, Age Fifteen,
R. F. D. 2, South Royalton, Vermont.

The Morning Dew

WHEN I went out the other morn,
The green was wet with dew.
It was a very pretty sight,
For things looked strangely new.

What made it still more beautiful,
All was a snowy white,
As though soft fluffy snow-flakes
Had been falling through the night.

All Nature seemed to love it,
Each flower with its fair hue
Displayed its tiny petals,
Which shone with drops of dew.

And later in the morning,
When the sun shone bright and gay,
The heat came down upon the earth,
And the dewdrops melted away.

FRANK C. HOUT, Age Thirteen,
R. F. D. 2, Middleburg, Indiana.

The Letter-Box

DEAR COUSIN SALLY:—
I was very glad to receive my pin, and I am glad that I belong to your club.

We're having snowy weather now.

I have two sisters, one six years old and one five months old.

I have been going to school three years, having started when I was seven years old and finished the third grade the first year. I am in the sixth grade now. Down here we don't have A and B except in the first grade. We have twelve grades down here.

LYNDE C. SMITH,
Wasco, Oregon.

DEAR COUSIN SALLY:—
I am sorry I did not write you before, but I did not have time.

I go to school and am in the sixth and seventh grades.

I like FARM AND FIRESIDE.

I received my club button and think it is just a little beauty. So the young folks that aren't members of Cousin Sally's Club had better join. The club motto is fine and I am trying to live up to it.

In the morning before I go to school I wash the dishes and carry in water and sweep the floor and make the beds and go to school. I have four sisters and three brothers.

My two sisters want to know the club motto, and I tell them to join.

Your cousin, ELLEN A. NORDEN,
Age Thirteen,
R. F. D. 1, Box 34, Sykeston,
North Dakota.

DEAR COUSIN SALLY:—
I hope I am not too late to wish you and my other cousins a happy new year, and our club the greatest success possible for the future time.

What a nice letter you wrote to us girls and boys, and I am sure we all appreciated it.

I hereby resolve to keep a resolution, by saying I shall take all interest in our page and help our club all I can. Most any kind of a contest pleases me, but I like writing poetry.

Hoping to hear from you soon, I am
Ever your loving cousin,
LILLIAN DOUGLAS,
East Granby, Connecticut.

I wish I could print all of the letters I receive. They are so interesting. I love them all, and even though they can't all be printed, still I want you boys and girls to know that Cousin Sally loves to read them and keeps them for her very own Letter-Box.

COUSIN SALLY.

SUNDAY READING

When the Air is Frosty

By Edgar L. Vincent

WHY, then you step along a bit more lively, you watch for the streak of sunshine to break through the clouds and you smile a little more cheerily. So the chill goes out of the air and everything is bright and happy once more.

Was the air frosty down your way this morning? It gets so sometimes. Maybe we got out of bed on the wrong side. Perhaps the air of the room was not just as pure as it should have been through the night, so that somebody had a headache. Then how easy it was to say the sharp thing or to show by one's manner that the heart-mercury was a trifle below zero! For a moment or two it looked as though there might be a thunder-storm or a squall of some kind. You know how it is. You have seen just such times before now.

What now?

Just brisk up and say, "What a beautiful morning this is! Seems as though everybody ought to be happy, doesn't it? I am. Are you?" And ten to one the frosty feeling will vanish out of the air and the world will go on as before.

There are some places in the country that have the name of being the chilliest of any in all the land. Take up the morning paper and you will see that in those towns the mercury went down ten or fifteen degrees lower than it did anywhere else. Makes you shiver to think of it. You wouldn't want to live in those places. You know you would freeze to death.

Do you know why it is that these particular places are so cold? The folks that have studied the matter tell us that there is something about the formation of the hills and valleys about those places that invites the cold air to settle there and that sends the mercury down whizzing. Maybe the sun doesn't get up over the hills there as early as it does in your town. Or perhaps it goes down earlier than anywhere else, hidden behind the hills.

It takes sunshine to drive out the frost.

In those very towns which are down in the weather man's list as being the very coldest in all the world by-and-by the sun gets to playing peek-a-boo through the clouds, and when it fairly finds its way down to the earth, it sends the frost kiting and those are the most beautiful places to live in. It is then you are sure that you never could be happy anywhere else.

Sunshine makes the heart happy. Let your sunshine go out to the man and woman who have cold chills dancing up and down their backs. Melt the ice off the window of his heart and help him see through to the lovely scenes just outside.

As you go up and down the world, you now and then see a face that is nearly frozen stiff with distrust and fear and selfishness. Somehow, you just want to creep right away from such a man. You feel that you must gather your skirts up close about you and never so much as touch this poor, half-frozen man. He doesn't even look at you. His very soul is having a hard, chilly time of it.

But don't be too sure that there isn't something of frost in your own heart. If it were not so, you surely wouldn't have this feeling of wanting to run away. Instead, you would let out a little of the warmth and sunshine in your heart and give it to the man of the frozen heart.

The time to be cheery and bright is when other folks are down in the mouth. It doesn't take much grace in the heart to take sunny views of life when everything goes well. Anybody can smile when other folks are gay. The time when it takes a whole heart full of love to see the bright side is when the shadows lie thick everywhere and the way seems shut up with a thick black-brier hedge. If you can be cheery then, you are in just the right place and doing the work that God wants you to do.

It cuts some of us clear down to the quick that we have not been given great things to do. How we would like to be the king of some favored country! Seems to us the crown that sets so awkwardly on the heads of other folks would look ten times better on ours. We would make the world a great deal better if we only had a chance. And we find fault about it and wonder why we were not blessed with a silver spoon to eat out of.

It is all right to want to do the very best one can in this world. Kings have their work to do. So do peasants. And the man who is good enough and true enough and warm-hearted enough to get up close to some iceberg of a friend and thaw him out until he smiles and takes a brighter view of life is making the world better. His crown has jewels in it that no king ever wore. His scepter is jeweled with love, and love is the greatest power in the world.

When the air is frosty, shine as you never shone before, radiate sunshine. It won't be long then till the cold vanishes and the sunshine falls in splendor over all.

Let There be Light

By L. D. Stearns

AND God said, Let there be light, and there was light."

Did you ever watch the day as it came creeping, creeping from the depths of night—softly, grayly, at first, then with a little clinging glow of gold and pink edging into the gray, the stars blinking sleepily overhead, until, all suddenly, behold! a golden glory over all the world, and the new day was born?

I love to think of that first day awakening, when God, from His high heaven, cried into the darkness of the unformed world, "Let there be light," and from the night of chaos the new world awoke; and, as it sprang, all glowing, into sudden light, He finished, "It is good."

In every life—every soul—come supreme moments when the God spark in us rises high on its throne and cries, "Let there be light."

Friend, heed that call. We're groping but blindly, for the most part now, I think, knowing so little of the soul, and the bond that reaches up, and ever up, uniting us with the great soul of the Infinite. There comes to us at moments something that we do not understand, a little conscious touch of fleeting power, of reverent awe; a sudden reaching out to the better, higher, nobler things of life—but we turn carelessly aside, and the crucial moment is gone. We have not understood the call to the soul, "Let there be light."

Yet sometimes, now and then, we pause and wait; and something sweet and holy and calm comes flooding our soul, as the glory of the new day comes flooding the world, fresh and sweet from the heat of night.

Friend, begin the day aright. Let the light come into your soul before you face the problems of the day. For just a moment get face to face with God. Difficulties are before you; decisions must be made; tangled threads must be straightened; mistakes of yesterday, perhaps, made right.

Every day and every life has its own individual problems. *Yours* aren't the problems of the world. They are *yours*. They're between you and the Almighty. Small or great, they must be faced. Let Him see our heart. He knows it already, but just hold it out before Him in the morning. Even though you utter no word, bow your head for a second and *wait*, while like a benediction the command goes forth, "Let there be light," and straight from the heart of the Eternal, light will come stealing softly into your soul.

Every morning the slate of life is handed out, clean and fresh, for the new record that must be placed thereon. We can't avoid the writing. We *can* decide what the writing shall be; and one day the volume in which all the records are bound will be opened and the story read and the judgment passed. Let's try to make our record one to be proud of.

"And God said, Let there be light." And the light is there. It rests with you, friend, it rests with me, whether we'll let it illumine and glorify our lives or whether we'll go creeping gradually on, just glimpsing it now and then from afar.

A GREAT ANNIVERSARY GIFT
FOR EVERY SUBSCRIBER

FARM AND FIRESIDE still has a limited number of its great Anniversary Gift Picture on hand. If you desire a copy of this beautiful painting, "Waiting for the Milkman," you will do well to order within the next few days. We guarantee to fill all orders received for it this month only. This great picture is one of the finest animal pictures ever painted. Everybody loves dogs, but it is only once in a generation that there is painted a great dog picture. This picture is worthy of recognition as a masterpiece. The situation is typical and very natural. It is printed in colors and will make a handsome appearance on the wall of your living-room. It is a suitable picture to adorn the walls of any home in the land.

The small reproduction of our Anniversary Picture gives no idea of the real beauty of the painting. But look at the little fellows! See how lifelike they are. They look as though they could jump right out of the frame and lick your hand. Seldom has so fine a dog picture been painted. Never before has FARM AND FIRESIDE had such a handsome, classy picture to offer its readers. This generous way of treating subscribers has contributed largely to the wonderful success of FARM AND FIRESIDE. A copy of this magnificent picture goes without cost to every subscriber, new or renewal, accepting any of our big Special Anniversary Offers as outlined on the lower part of this page.

"Waiting for the Milk-Man"
This Elegant Picture, in Colors. Size 11x16. Our Gift to You

Description of the Picture

Copies of this handsome picture have never before been offered to the public. These pictures have been obtained for our readers at great expense. Every picture is fully protected by copyright and cannot be reproduced by anyone else whosoever.

"Waiting for the Milk-Man" is 11x16 inches in size and is printed on extra heavy art paper. The picture is in colors and looks exactly like the original painting.

For A Limited Time Only

This special picture offer will surely be withdrawn before the end of February. Never before in the history of the agricultural press has any farm paper made such a generous effort to please its subscribers and supply them with a gift of real merit.

Let us again advise you that the offer will be extended you during the balance of this short month only. It will be well for you to fill out the coupon below indicating the offer you accept and send it to us by early mail.

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Good Until March 1st Only

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Readers accepting offer No. 1 or 2 may obtain one additional Flower Collection as premium for each additional FARM AND FIRESIDE yearly subscription at 50 cents.

ANNIVERSARY OFFER No. 3

Send 60c for a 1-year subscription to FARM AND FIRESIDE — 24 numbers — the Anniversary Picture, together with any one of the Flower Collections.

50 Post-Cards

In any of the above offers you can substitute for a Flower Collection the set of 50 Post-Cards described on page 38.

ANNIVERSARY OFFER No. 4

Send 50c for a 1-year subscription to FARM AND FIRESIDE—24 numbers—and you will receive the Anniversary Picture.

By accepting one of the above special offers immediately you will insure yourself against disappointment because we cannot possibly agree to fill any more orders after the expiration of this offer. You will profit by acting on our advice and mailing your order without delay.

Send Your Subscription With This Blank To-day

Farm and Fireside, Springfield, Ohio

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The Anniversary Picture Will be Sent With Every Subscription

Rose-Bushes Without Cost

FARM AND FIRESIDE'S 1911 Anniversary Rose and Flower offer is the most liberal and valuable we have ever made to our readers. Six sturdy rose-bushes, grown especially for FARM AND FIRESIDE readers by one of the largest nurseries in America. But, it will be necessary for you to order before March 1st because after that date our supply of Rose-bushes and Flowers is sure to be completely exhausted. The Roses and Flowers are all of hardy, vigorous growth and are irreproachable in every respect. We guarantee that they will arrive in perfect condition, ready to set out, and that

They Will Bloom This Season of 1911

FARM AND FIRESIDE Rose Offers have been famous for many years. Hundreds of thousands of rose collections have been shipped to our readers—and we do not know of a single case of dissatisfaction. Every collection is carefully packed in burlap and moss, guaranteed to reach you in perfect condition, and is shipped prepaid. Every rose is a different variety.

HERE ARE THE SIX SUPERB ROSES

Order as Collection No. 101

The Famous New Blue Rose

This year we have enlarged our collection to include the famous new blue rose. This unusual and remarkable climbing rose was originated in Germany and is of quick and vigorous growth. The flowers are borne in large trusses; they are slightly double or even single, pretty large, and of a deep purplish violet, with light violet center, and prominent yellow anthers. The blue rose is very attractive when grown in pots.

The six rose-bushes consist of:

1. The New Blue Rose: The latest novelty in roses; a seedling of the Crimson Rambler.

2. Maman Cochet! The queen of all garden roses, with color of rich, clear pink. Such beauty as is possessed by this variety is well-nigh marvelous. The buds are beautiful, large, full and elegantly pointed. The flowers are extra large and perfectly double.

3. Etoile de Lyon: This magnificent Tea Rose, south of the Ohio River, has proved to be perfectly hardy. Flowers are very large, double, full and deliciously fragrant. The color is a beautiful chrome-yellow, deepening at center to pure golden-yellow.

4. White Killarney: A very beautiful Hybrid Tea Rose. The color is an exquisite shade of deep shell-pink, lightened with silvery-pink. The buds are exceptionally long and beautifully formed, the open flower is graceful in the extreme.

5. Helen Gould: The most beautiful and satisfactory rose for general planting ever introduced in America. The flowers are perfectly double, the buds beautifully made, long and pointed. The color is warm rosy-crimson like that of a ripe red watermelon.

6. Wm. R. Smith: A most promising summer bedder with beautiful, firm, glossy foliage, quite like Cochet in appearance and durability, very vigorous in growth, with shadings of pink.

The Above Rose Collection Without Cost as Explained Below

OTHER GREAT FLOWER COLLECTIONS

Six Magnificent Chrysanthemums

Order as Collection No. 102

Six large flowering Japanese varieties, all different colors, the very finest obtainable.

1. Black Hawk: Dark velvety crimson.
2. Estelle: Pure white with extra large flowers.
3. Millicent Richardson: Beautiful rosy violet.
4. Mrs. Robert Foerderer: Soft creamy yellow.
5. Percy Plumridge: Large Japanese incurved variety.
6. W. F. McNeice: Lavender pearl.

Four Elegant Ferns

Order as Collection No. 103

Of all plants for pot or interior decorations, ferns occupy the place of favor in the estimation of all. This collection, which consists of the four frequently sell for fifty cents each.
leading varieties, will beautify any home. They

1. Boston Sword Fern: Long arching fronds.
2. Nephrolepis Scotti: Handsome bushy growth.
3. Nephrolepis Whitmani: A beautiful symmetrical plant.
4. Emerald Fern: Pretty decorative house plant.

Five Lovely Carnations

Order as Collection No. 104

Unrivaled in their rich and refreshing fragrance, unequaled for diversity of colors, unapproached for daintiness and beauty of outline.

1. Prosperity: White, overlaid with pink.
2. Rose Pink Enchantress: Splendid blooming qualities.
3. Red Sport: A flaming scarlet.
4. Harlowarden: Dazzling crimson, the largest and best of its color.
5. Lady Bountiful: Pure white, with large flowers.

State the Month in Which You Wish Plants Shipped

Guarantee

We guarantee all plants to be exactly as described, to arrive in perfect condition and to give entire satisfaction. Each collection is made up of different varieties, all famous. Each collection consists of well-grown plants that will bloom this season of 1911.

About Shipping

All the plants will be shipped carefully packed. All plants will be large, healthy and well rooted, and will bloom the coming season. Unless the subscriber states on what date she wishes plants shipped, plants will be shipped to each locality at the time they should be set out. All collections will be shipped carefully packed, delivery charges prepaid by FARM AND FIRESIDE.

How to Get the Flowers

Great Anniversary Offers

OFFER No. 1. We will send one Rose or Flower collection to every reader who sends $1.00 for a three-year subscription to Farm and Fireside—72 numbers.

OFFER No. 2. Get two friends to hand you 50c each for a one-year subscription to Farm and Fireside. Send us $1.00 for the two subscriptions and we will send you your own subscription to Farm and Fireside for one year. Also we will send you one collection of Rose-Bushes or Flowers.

We will send an additional Rose or Flower collection as a premium in payment for each additional Farm and Fireside subscription for one year at 50c. This offer is open only to readers who take advantage of either Offer No. 2 or Offer No. 1.

OFFER No. 3. Send 60c for a one-year subscription to Farm and Fireside—24 numbers—and one Rose or Flower collection.

Our Anniversary picture will accompany every subscription.

These Offers are Limited to March 1st

Cultural Directions

Collections must be ordered entire. Accompanying each lot of plants there are full directions for planting, care, etc., in order that the best results may be obtained.

20-Day Offer

These great Anniversary offers hold for 20 days. We advise you to order at once. Remember that our Anniversary picture described in the offers on page 35 accompanies every subscription. Write your order on the blank opposite. It will pay you to order now even though your subscription has not yet expired. Your new subscription will be entered to begin the month after your present subscription expires.

You can obtain these six famous Roses, including the new Blue Rose, without cost, if you send a subscription to Farm and Fireside before March 1.

Write Your Order on the Blank on Page 35, or on a Piece of Paper

Send Your Order to Farm and Fireside, Springfield, Ohio

The Housewife's Letter-Box

Do You Need Help?

Have you been looking for a special recipe for years? Do you need any information on household matters? And do you meet with little problems in the home that you wish some one would solve for you—some one who has had a little more experience than you? Then, why not make use of YOUR OWN department and ask the questions which have been troubling you? This department has proved that the spirit of helpfulness is abroad in the land, especially among the women of the farm. That our readers have the mutual desire to help one another is evidenced by the large and prompt response we have had to the questions which are printed here monthly. There is no payment made for contributions to these columns. All answers and inquiries should be addressed to "The Housewife's Letter-Box," care of Farm and Fireside, Springfield, Ohio.

Questions Asked

Will some one please tell me—

How to can peas? Mrs. T. S., Ilinois.

How to clean sofa-pillows that are stamped in color and embroidered in silk? Also how to keep cheese from molding?
E. V. La G., New York.

How to prepare citron used for cake, also how to prepare figs?
Mrs. D. H. T., New York.

How to cook dried sweet corn; also how to prepare dried apples? Mrs. M. H., Ohio.

Of any dye that will change white fur to black? T. H. C., Pennsylvania.

Which tests the higher, sweet or sour cream, and should it be stirred every time cream is added? Mrs. C. I. C., Indiana.

Mrs. M. D. W., of New York, is anxious to know if one of the readers has a pattern for a pieced quilt called "Wandering Blades" published quite a while ago in Farm and Fireside. Editor.

Mrs. J. A. B., of Massachusetts, would like to have directions for steaming a dark fruit or wedding cake. She knows how to bake a cake, but doesn't understand how to steam one.

C. L. G., of Ohio, would appreciate a recipe for old-fashioned boiled Indian pudding as made by the New Englanders.

Questions Answered

To Rid House of Rats, for A. D., California—E. E. F., of Kentucky, sends in the following information contained in a newspaper clipping. It reads:

"A friend wrote us that he rid his farm of rats in the following manner:

"On a number of pieces of shingles put about a tablespoonful of molasses and on that I put a small quantity of concentrated lye, then placed the old shingles around under the cribs. The next morning I found some forty dead rats and the rest had left for parts unknown. I have learned that several farms have been rid of these pests in the same way and never knew it to fail. It is worth trying."

Marshmallows, for Mrs. A. O. P., Ohio—Soak two tablespoonfuls of gelatin in five of cold water while you boil one and one half cupfuls of white sugar with seven tablespoonfuls of cold water, for five or six minutes. Remove from fire and pour over the gelatin. Beat until thick and quite stiff, add flavoring and a pinch of salt. Butter and dust a tin (I use a square loaf-pan) with powdered sugar. Turn in the mixture and let stand until next day or until cold. Cut in squares and roll in powdered sugar.
Mrs. G. T., California.

Vinegar From Apple-Cider, for J. L. H., West Virginia—I have made vinegar for forty years in this way: Take three or four pieces of brown or straw paper as large as your two hands and cover them with molasses and put them in the barrel. Leave the bung open, but cover with a thin cloth to keep flies out, and in time you will have the best of vinegar. Mrs. S. C. H., Connecticut.

Neapolitan Cake, for L. M. S., Ohio—Two cupfuls of sugar, three teaspoonfuls of baking-powder, one half cupful of butter, seven eggs, one half cupful of sweet milk. Divide into three parts, and color one dark with chocolate mixed in, another with pink fruit flavoring, the third part with lemon-flavoring. Bake in three layers and ice between layers on top and sides. Mrs. E. W. B., Kansas.

Cream Layer Cake, for E. F., California—One cupful of sugar, one quarter of a cupful of butter, one half cupful of sweet milk, the whites of two eggs, one and one half cupfuls of flour, one teaspoonful of baking-powder and one teaspoonful of extract of rose.

Stir butter until light; beat the whites of eggs until light; then mix together, adding the sugar. Beat all until light, then add milk and baking-powder and flour, which should be thoroughly mixed together before stirring in. Now stir all together until light and bake.

Filling for Cake—The yolks of two eggs, one cupful of sugar, two tablespoonfuls of cream and one teaspoonful of vanilla.
Mrs. M. C., Ohio.

For Mrs. O. M. K., Illinois—Some time ago I saw in The Housewife's Letter-Box an inquiry by Mrs. O. M. K., Illinois, asking why it took so long for her to get butter, that her cow was properly fed and seemed well. I will give what I think is the cause, and I speak from experience, as I have made quite a study of the matter the past few years, with sometimes one and sometimes two cows. I believe that a cow between four and five months before she becomes fresh begins to make inferior butter. It takes longer to churn than when she is fresh, and when the butter does come it is greasy and lacks the grain of the butter of a fresh cow. I have read that if the cream of a fresh cow is mixed with that of an old milker the butter will come soon, and even if you get sour milk of a fresh cow and mix with the cream, using the thick milk of the fresh cow as a "starter," as the agricultural bulletins call it, it will remedy the matter. I don't know that that will help, as I never tried it, but I do know that scalding the milk or cream will make the butter come very soon and it will be of a much better quality and keep better than unscalded cream, though it will not be so nice as that from a fresh cow. An aluminum pan or kettle is the best thing to scald the cream in, for you can put it on a hot stove and the cream will not burn the way it does when cooked in vessels of other ware. Care must be taken not to let the cream boil over. Sometimes, if there is not room on the stove, I put the cream in a pan that a deep pie-pan will cover and set it in the oven with water in the pie-pan and the cream will not burn so long as there is a pan of water over it. Each mess of cream should be scalded while it is sweet, and left to cool before putting with the other. Should one not have a separator all the milk will have to be scalded and left to cool before skimming, but that is a great deal of work.
G. E. H., Illinois.

Here is another suggestion from J. B., of Ohio—If Mrs. O. M. K. will try the following plan, she will have no trouble getting her butter to come quickly, as I have used the plan for several years. As soon as you bring your milk to the house put it in a vessel over the fire and heat until it beads or almost boils. Then strain in the usual way for the cream to raise. Stir your cream in the jar each time you add new cream and when you churn heat your cream to the proper temperature for churning, instead of adding hot water, and I think you will have no more trouble in getting sweet butter in a very short time.

Peanut-Butter, for Mrs. H., Ohio—Here is a recipe which was printed in the Housewife's Club, September 10th: Shell and grind freshly roasted peanuts, grind to a powder, mix to a smooth paste with one half as much butter as peanuts.
C. M. B., Tennessee.

To Resilver a Mirror, for Mrs. B. E. G., North Carolina—Mercury is not the only substance required to resilver a mirror. Take a mixture of three ounces of bismuth, one half ounce each of tin and lead melted together and three ounces of mercury added when the first mixture is cool. It is necessary that these directions are closely followed. Apply to the back of the mirror with a hare's foot, which can be bought at any drug-store, or a rabbit's foot will answer.
E. F., New York.

Pumpkin-Pie, for D. O., New York—I also had trouble to get my pumpkin-pies to brown on top. I make the dough, cover my pie-pans, and then mix the pumpkin all ready to stir in the milk which I boil before adding to the pumpkin. I also melt a little butter and mix it in and do not use any eggs. As soon as I boiled the milk my pies came out of the oven brown on top.
Mrs. J. W. H., Pennsylvania.

Pumpkin-Pie—One and one half cupfuls of steamed and strained pumpkin, two thirds of a cupful of brown sugar, one teaspoonful of cinnamon, one half teaspoonful of ginger, one half teaspoonful of salt, two eggs and one and one half cupfuls of milk, one half cupful of cream. Mix ingredients in order given and bake in one crust.

Chocolate Fudge, for Mrs. A. O. P., Ohio—Two cupfuls of sugar, one and one half cupfuls of milk, two squares of unsweetened chocolate, butter the size of a walnut, a pinch of salt. Boil until it molds in cold water. Add a teaspoonful of vanilla. Beat until real thick and pour in buttered tins.

College Fudge, for Mrs. A. O. P., Ohio—Melt one cupful of butter. Mix in a separate dish one cupful of white sugar, one cupful of brown sugar, one fourth of a cupful of molasses and one half cupful of cream. Add this to the butter, and after bringing to a boil, continue boiling two and one half minutes, stirring rapidly. Add two squares of unsweetened chocolate, scraped fine. Boil five minutes, stirring it first rapidly and then more slowly toward the end. Remove from fire, add one and one half teaspoonfuls of vanilla and beat till it thickens. Pour in buttered pan and cut in squares when firm enough. Mrs. C. S., Kansas.

Cracker-Jack, for L. M. S., Ohio—Two cupfuls of granulated sugar. Melt over fire till it forms a dark syrup. Add two generous tablespoonfuls of butter and the same of molasses. Let boil and pour over freshly-popped corn. Stir. Miss B. S., Kansas.

For E. S. G., Pennsylvania—If your begonia is like mine, the old tops die down once or twice a year. I clip them off and new shoots come on. Mrs. E. W. B., Kansas.

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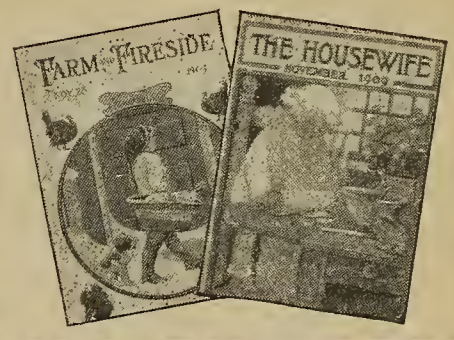

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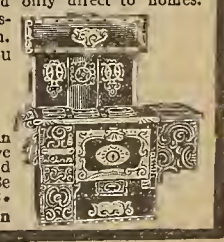

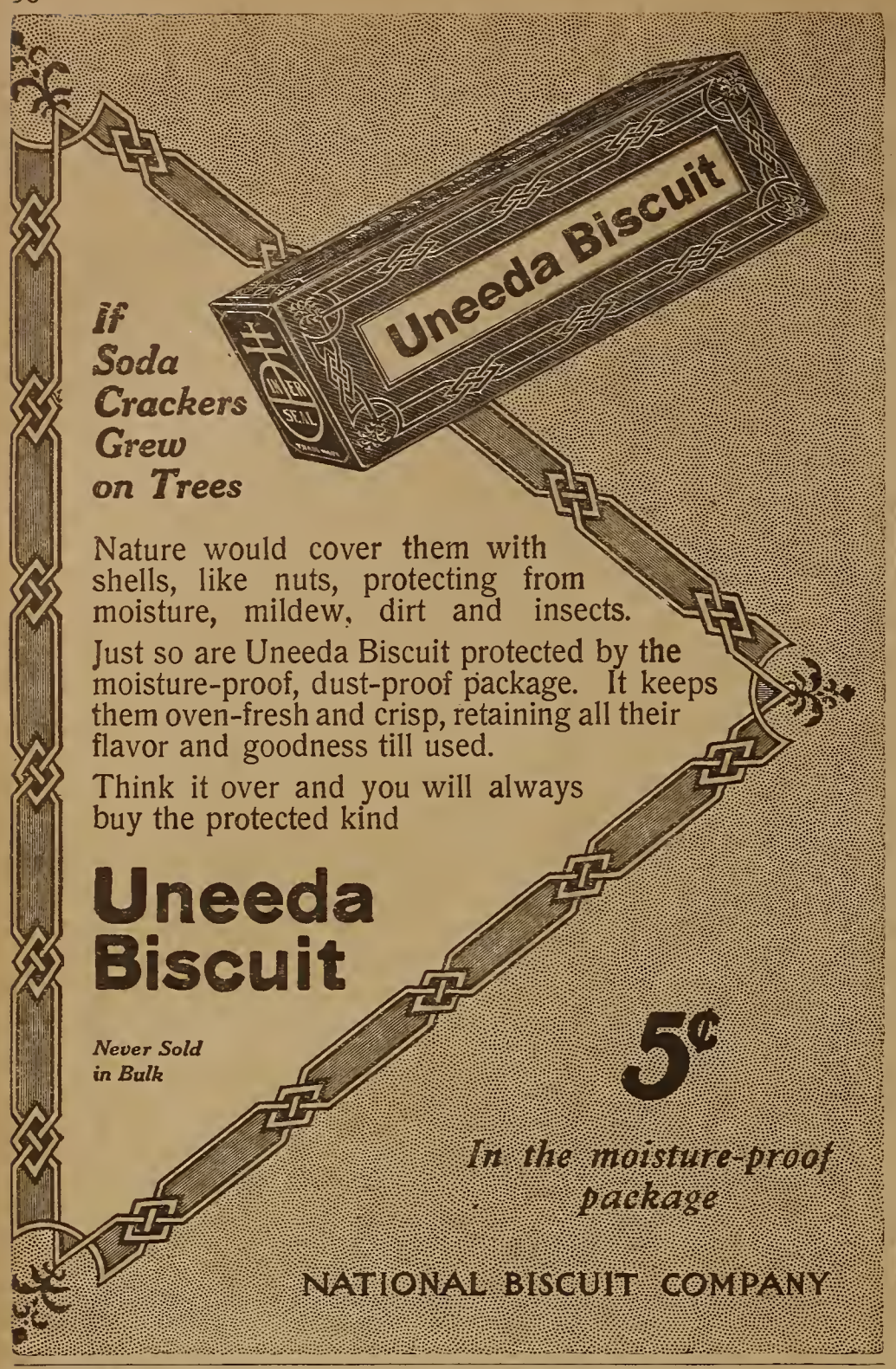

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Your relatives and friends will assuredly appreciate the thoughtfulness which prompted your sending them one of these cards. Tokens of regard and appreciation of this kind are ofttimes more appreciated than far more substantial gifts. Each of these cards is different, depicting beautiful colors, chubby Cupid, pink-cheeked children, gorgeous flowers, particularly beautiful landscape pictures—all representative especially of this season of the year. Each card in itself constitutes a handsome present.

Our Ten-Day Offers

OFFER No. 1

Send $1.00 for one three-year subscription to FARM AND FIRESIDE. You will receive a set of fifty Patriotic, Good Luck and Birthday Post-Cards, without cost, and the subscriber will also receive a copy of the picture, "Waiting for the Milk-Man," free of charge, postage prepaid.

OFFER No. 2

Get two of your neighbors to hand you 50 cents each for a year's subscription to FARM AND FIRESIDE. Send us the subscriptions with remittance of $1.00 and this set of fifty Patriotic, Good Luck and Birthday Post-Cards will be sent you by return mail, postage prepaid. Your own subscription will also be extended one full year, and each subscriber will receive a copy of the picture, "Waiting for the Milk-Man," free of charge, postage prepaid.

OFFER No. 3

Send 60 cents for one year's subscription to FARM AND FIRESIDE. You will receive a set of fifty Patriotic, Good Luck and Birthday Post-Cards by return mail, postage prepaid. Subscriber will also receive a copy of the picture, "Waiting for the Milk-Man," free of charge, postage prepaid.

These Offers Will Expire in Ten Days

Farm and Fireside, Springfield, Ohio

Health and Beauty Hints

By Elma Iona Locke

A SIMPLE remedy for hiccough is a lump of sugar saturated with vinegar. This has been tried with great success.

When one has had a cold for a few days, the nostrils are apt to get sore. Anoint them frequently with vaseline. I know of nothing that will heal them so quickly.

I have found nothing better than cold ginger tea for colds. It will not start perspiration as will a hot tea. The latter is better if you can stay in bed until you sweat out the cold (which, if tried at the start, will often save a severe illness). But if you must be up and exposed to the cold air, try the cold tea. Mix one half to one teaspoonful of pure ground ginger with a teaspoonful of sugar, add a little water and mix smooth, then fill up the cup with cold water and drink just before retiring.

The following is a fine remedy for chilblains: Dissolve by gentle heat one ounce of camphor gum in four fluid ounces of sweet oil and apply to the afflicted parts.

Never use a sponge for bathing, they are filthy things at best. If used at all, they should be boiled very frequently. A cloth is far better, a flannel one being preferable.

Do not bathe in hard water; it is ruinous to the skin. Soften the water with a little powdered borax or a few drops of ammonia.

Remember that it is impossible to really cleanse the skin with cold water. Use a pure soap with warm or hot water, and follow with a dash of cold water to close the pores and invigorate the system.

A physician claims that excessive palpitation of the heart can always be arrested simply by bending double—the head down and hands hanging—so as to produce a temporary congestion of the upper portion of the body. In nearly every instance of nervous or anemic palpitation, the heart immediately resumed its normal function.

In case of toothache, when all the teeth seem aching at once, the trouble may be caused by acidity of the mouth. Wash the teeth and rinse the mouth out very thoroughly with a solution of baking-soda in warm water.

For freckles take one ounce of alum, one ounce of lemon-juice and one pint of rose-water. Shake well and apply to the face at night.

For light freckles gained during summer, use the following lotion: One fluid dram of the compound tincture of benzoin, one half dram of glycerin and three ounces of rose-water.

To prepare oatmeal for the complexion, take two tablespoonfuls of the best oatmeal and boil it in two quarts of water for several hours, strain and cool. Then add the juice of a lemon, and one tablespoonful of alcohol. Apply after the face has been bathed with warm water, pure soap and a complexion brush. Do not wipe off the lotion, but let it dry into the skin. The oatmeal will make the skin soft, the lemon-juice will whiten it and the alcohol will remove any greasy appearance.

For burns use a solution of boric acid. Drop two ounces of the acid crystals into a quart glass jar and fill with water. This makes a saturate solution. Take a piece of gauze or cheese-cloth, saturate it with the solution and lay on the burn. Apply very moist, cover with absorbent cotton and then with oiled silk. This will keep moist for hours, as the oiled silk prevents evaporation.

For a bruise rub a little olive-oil or even butter into the skin to prevent discoloration.

The soreness of boils may be relieved, and often the swelling arrested, by the timely and frequent application of turpentine.

An excellent method of cooling a hot forehead is to apply a little eau de Cologne or methylated spirit and then to fan the forehead briskly. This causes the spirit to evaporate and leaves the forehead as cold as if ice had been applied.

To remove a scar left by a burn or cut, rub scar crosswise, two or three times a day, with pure olive-oil.

An excellent poultice for sprains is made of cotton-seed boiled until soft and applied while hot. It is splendid for drawing out the pain.

For corns, soften stale bread with good strong vinegar and bind on overnight. After two or three applications the corn can usually be picked out. It also takes out the soreness.

Cranberries are used internally and externally in cases of erysipelas.

Poor Relations

[CONTINUED FROM PAGE 27]

"Please see me," he pleaded. "I must eat a slice of humble pie before I can look myself in the face again. That's impossible, but you understand what I mean. Honestly, I know I acted like a cad! Be a good fellow and let me tell you so. I—I never felt so blue in my life. I—I came up when the man at the desk wasn't looking. I knew you would never see me if I waited for permission."

The girl's face was white with anger; but he went on, fumbling with his hat and cane.

"Don't despise me. I—I have always liked you, Marion, but you wouldn't give me a decent chance to show it. There's lots of bad in me, but there's some good, too! I can't help it if the governor hates poor relations worse than poison!"

Marion laughed a little bitterly with an irrepressible choke in her voice.

"You have been crying!" the boy exclaimed suddenly. "You don't know how that makes me feel! I could go out and hang myself."

His words stung her into speech. "You don't suppose I am crying for you, do you?" she scorned him. "I have plenty of things to cry about, but you are not one of them." Her nerves were unstrung from the constant strain she had been under that day, and she spoke almost hysterically.

"What's wrong, Marion?" he questioned earnestly. "Let me help you and show you I'm the right sort."

She shook her head decidedly.

"Please," Fred begged. "Please!"

"I'm crying because I haven't fifteen hundred dollars," she broke out breathlessly, "and I need that much to insure the publication of my book. I just had a letter from Merrick & Bland saying so." She gave this information on the impulse of the moment, as usual, and suddenly the interpretation he might put in her words came to her and she added vehemently. "Don't think I would accept help from your father—no indeed. This money would make me free, independent, but I wouldn't accept it from my uncle—not if he offered it on a silver salver."

"Let me give it to you!" the boy exclaimed eagerly. "Let me, Marion!"

"Nonsense," she flared. "You know I wouldn't accept a penny."

"But—" his face was earnest.

"There are no 'buts!' Please go now, Fred. I'm very tired. I should not have told you about my story. I—I accept your apology; I believe you were not responsible for what you did!" Her manner was strained and weary, while her blue eyes, shadowed and heavy, looked an appeal.

Fred opened the door and stepped into the hallway.

"I'm going to help you," he insisted.

"No! No!" she called, but he was hurrying down the corridor.

The girl seated herself strangely perplexed. What did Fred mean? A long tremulous sigh escaped her. Was there to be no end to her perplexities?

[TO BE CONTINUED]

* * *

Do you remember when you heard
My lips breathe love's faltering word?
You do, sweet—don't you?
When, having wandered all the day,
Linked arm in arm, I dared to say,
"You'll love me—won't you?"

And when you blushed and could not speak,
I fondly kissed your glowing cheek,
Did that affront you?
Oh, surely not—your eye expressed
No wrath—but said, perhaps in jest,
"You'll love me—won't you?"

I'm sure my eyes replied, "I will,"
And you believe that promise still.
You do, sweet—don't you?
Yes, yes! when age has made our eyes
Unfit for questions or replies,
You'll love me—won't you?

THOMAS H. BAYLY.

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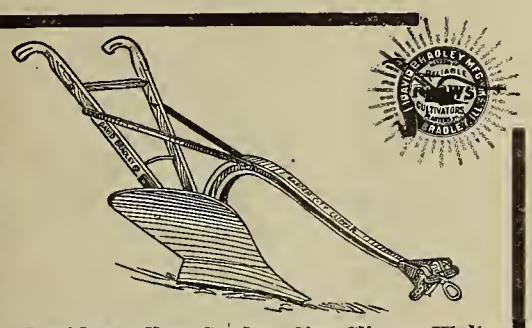

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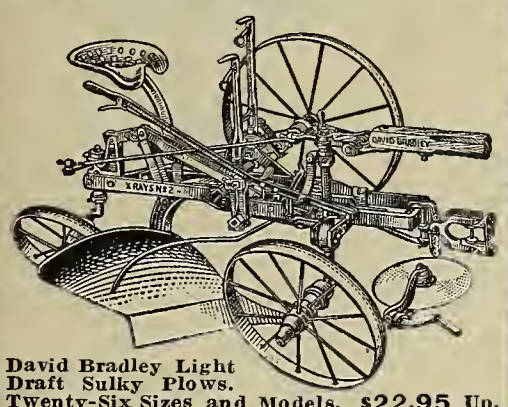

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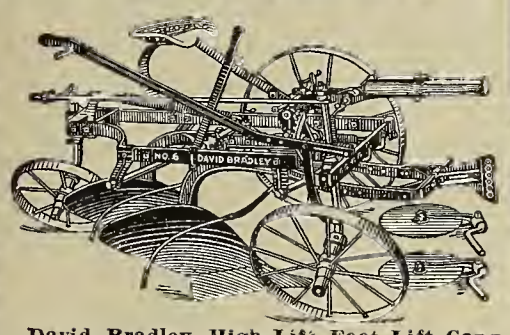

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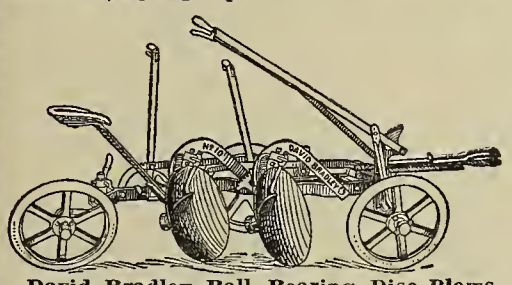

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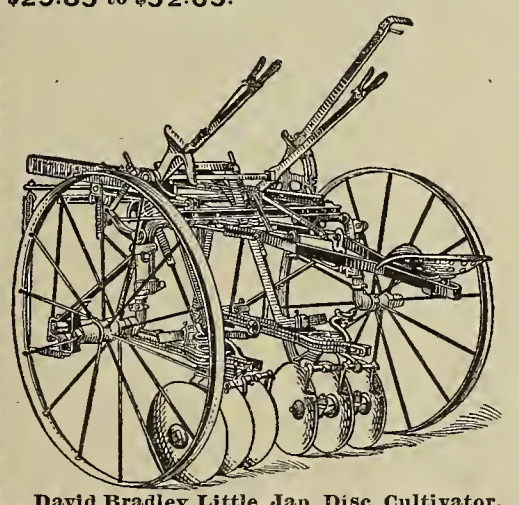

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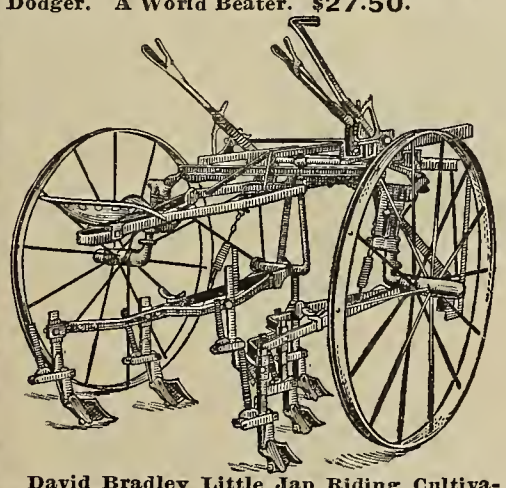

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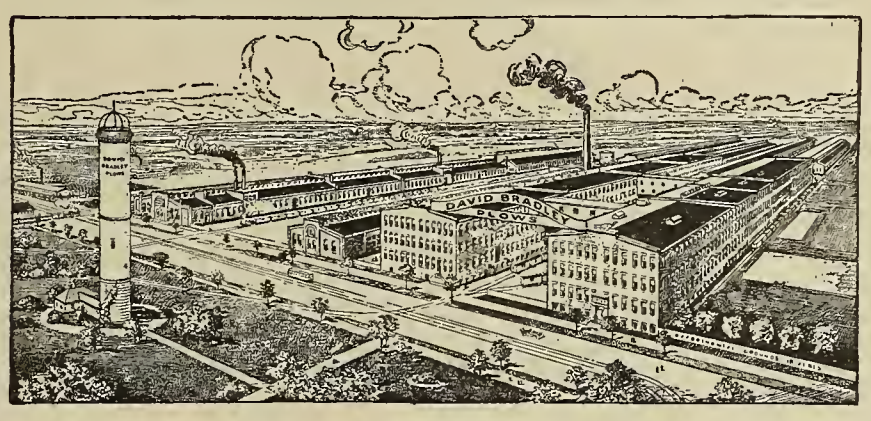

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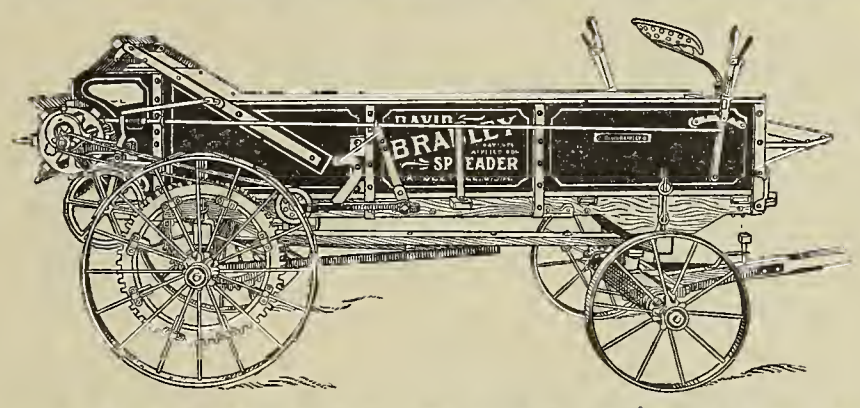

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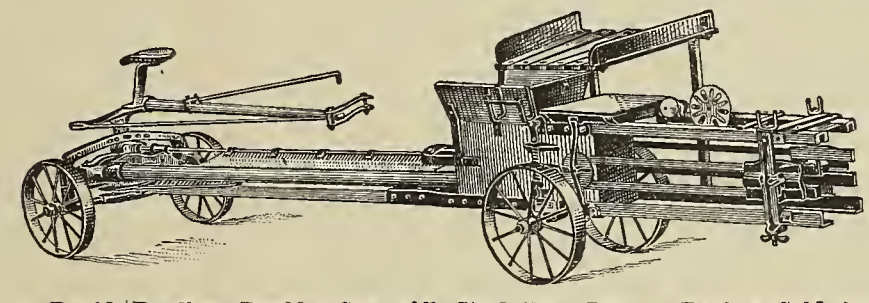

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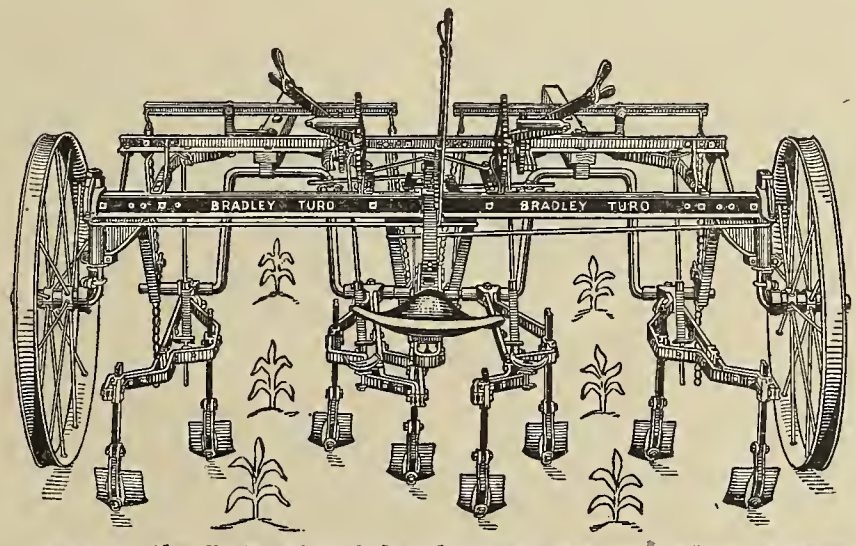

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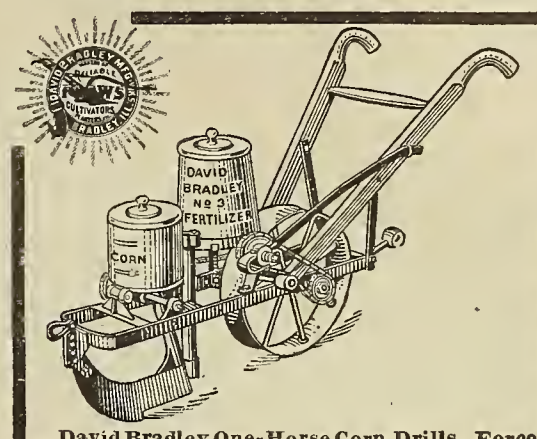

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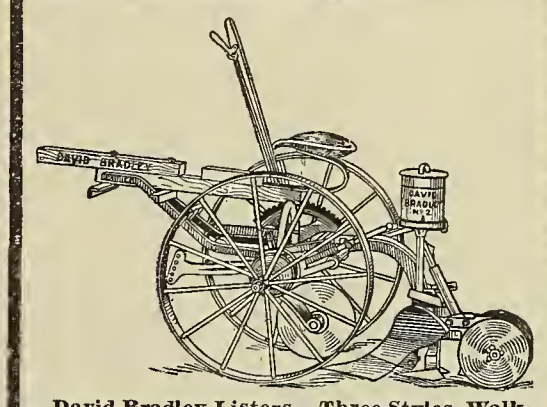

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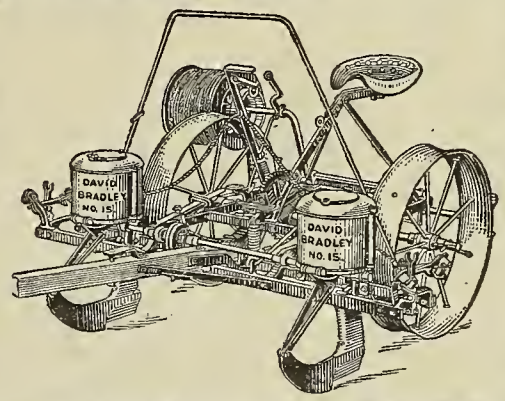

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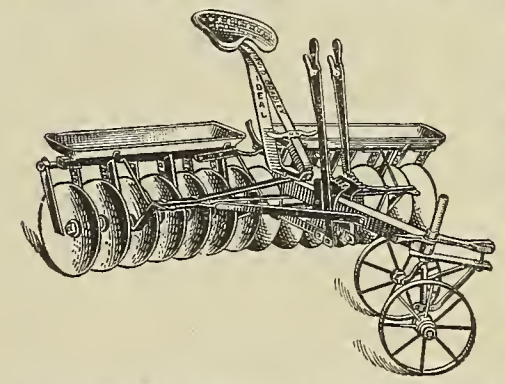

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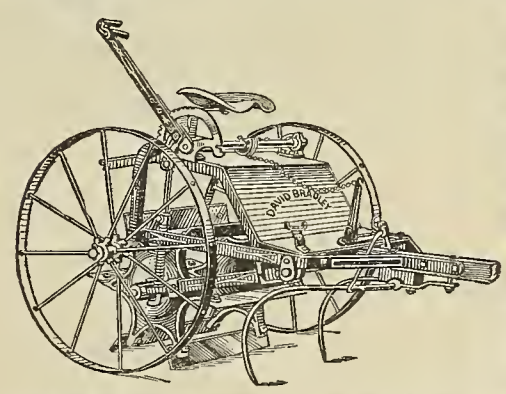

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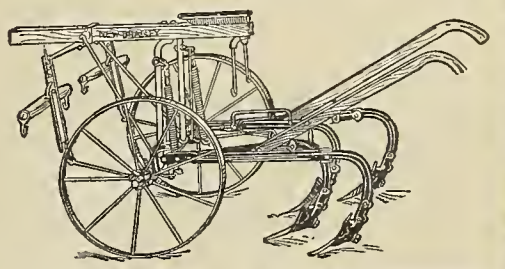

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W. O. RANDOLPH,
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Government recommendation means something. *The Harman Grinder was first tested carefully, approved and purchased. Now, after it has been used and proved its worth in hard everyday grinding and polishing and has been approved by officials who are slow to praise unless they KNOW—don't you think that you should at least TRY this grinder when you can do so at no expense to yourself and no risk? The grinder MUST make good to your entire satisfaction or we want you to send it back. Write for the grinder today and see how much money it will save on YOUR farm.*

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I must say the grinder is far ahead of anything I expected it to be. No more hand power grindstones for me. When I want to sharpen anything I go and do it without chasing up the second party to turn the stone. Not being used to sharp tools, three of my family have slight memeutos on their fingers and I touched myself slightly this afternoon. My boy calls it "Pop's" bicycle. Very true that statement that you can use it 365 days a year. I gummed a cross-cut, sharpened some knives and a hatchet. I am satisfied that it is the most useful tool or equal to any tool the farmer or anybody else has on his place.

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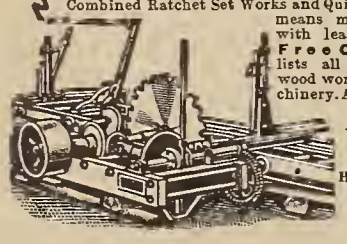

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With the Editor

MOHAMMEDANS, when they desire to acquire holiness, make pilgrimages to the tomb of Mahomet at Mecca. The Christians—as they called themselves—of the Middle Ages used to make pilgrimages and crusades to the tomb of the Savior at Jerusalem.

Probably it did and does them good. But as for me, I prefer to make my pilgrimages to spots where things are being done now, and I would rather visit living persons than any tombs under the sun. It does me more good. I get more inspiration out of it. Just now, the problem of how to make life more what it should be presents itself to me as more important than any other—for if people have a fair chance in this world, I am willing to place elsewhere the responsibility of their future life. Not that it is unimportant—the future life—but perhaps if the problem of this life is well solved, the other will be solved, too. I don't know. I don't pretend to know, I tell you! All I know is that when I make a pilgrimage I go to the living and not to the dead—and if you don't agree with me, just come over to my house some evening and we'll talk it out.

Just now I want to report what I saw when I made my pilgrimage to Page County, Iowa, to see what they are doing there in the way of what the County Life Commission calls "a new kind of country school."

I don't believe a pilgrim ever came back from tramping to Jerusalem more uplifted and inspired than I am.

Miss Jessie Field met me at the train—Miss Field, whose letters to FARM AND FIRESIDE have made you all acquainted with her and her work for better schools. She met me in an auto—one that her schools won by their exhibit at the Omaha Corn Show, and which they gave to Miss Field, who needed it. And here I wish to say to county boards, where there is a county superintendent who is working hard to visit schools and follow the examples of such superintendents as Miss Field, that they are dreadfully short-sighted if they don't get that county superintendent a motor-car. It's such silly short-sightedness to allow a good school man or school woman to go poking along with a horse and buggy, when he might as well be getting from school to school in ten minutes, and back to the office from the end of the county in an hour. Get autos, and get into step with the Infinite! A runabout doesn't cost much, and a runabout will do. A runabout with Jessie Field at the helm is worth more than a six-cylinder, ten-passenger touring car with any other county superintendent I ever saw driving it. Put your main thought into the matter of a superintendent and then get a runabout.

* * *

A COUNTY farmers' institute was on—and I found out afterward that Miss Field and her teachers and their pupils were running it. Not "practically" running it, but openly and confessedly. The farmers had placed Miss Field in charge. And let me assure you it was some institute—I spoke to probably twelve hundred people there that night—but the audience spoke far better than the speaker.

"I want to take you out to the Oak Grove School," said Miss Field, "before you go to the institute."

"All right," said I, "we can't see too many schools to suit me."

On the top of a hill, with some oak trees about it and the rolling farming country falling away on the three sides to lower levels, is the Oak Grove School. It is just a one-room school—no consolidated district, and there were from a dozen to twenty pupils there. A pleasant, motherly person, Mrs. Anna Hobson, is the teacher. Some people might not see any difference between this school and the ordinary country school, but I remember too keenly the country schools I used to attend and teach. It is different. The school-house is built with some eye to beauty. Inside it is decorated as good rooms are decorated everywhere—prettily decorated. There are pictures on the walls—not many, but good.

"How many of you have sent things to the farmers' institute show at Clarinda?" was asked.

Every hand went up! There wasn't a pupil in that school who hadn't sent something. The littlest boy had sent ten ears of corn—the teaching in Page seems to revolve about corn. "And what did you send, dearie?" asked Miss Field of a tiny girl. "I sent a buttonhole!" was the reply. "And I did some work on the school-house." "What did you do on the school-house?" "I cut paper for the shingles!"

This was all Greek to me, but I found out all about it at the institute. The pupils of some of the schools made small models of their school-houses and grounds, and placed them on view at the show. There was a prize for the best one. And even the littlest girl could work a buttonhole or hem an apron or do a raffia napkin-ring. One girl at the show told me that her grandmother was teaching her to sew. "Grandma," said she, "can work a buttonhole so nobody can tell the right side from the wrong side. Next year I hope to show some buttonholes here that I've worked like that!"

Another part of the show looked like a Headwork Shop—there were gates, brooders, incubators and all sorts of things made by the boys. There was a prize for the best exhibition of knot-tying.

The boy who got the prize in the acre-yield corn contest grew ninety-two bushels on his acre—without any fertilizers—remember that, you South Carolina boys!

A whole department was devoted to cookery. At Mrs. Hobson's school I met Merle Bayles, a fourteen-year-old miss who took first prize in cookies—and another prize—not the first—in bread. Just to show me that all the good cookery didn't go to the show, Mrs. Hobson robbed Miss Merle's dinner-pail of a cooky and I ate it. Now, I profess to know all about cookies from the practical viewpoint of the man who eats one or two with his coffee every morning, and I wish to testify that this cooky was absolutely as good as a cooky can be made. I ate another from Merle's prize lot at the show, and I couldn't tell the difference.

* * *

THAT evening we had the session of the institute, and the next day. The thing was a great success. Practical problems in farming were discussed. Speakers from out of the county were there. It was a fine institute from any point of view. The farmers of Page County seem awake to the benefits of the latest things in farming, in road-building and in farm life—but the thing that made this institute different was the background of school life that overpowered everything else.

I stayed over another day. I wanted to see more schools. The runabout went speeding by the first school-house—Miss Field was not going to stop!

"What's the matter with this school?" I inquired.

"Nothing," said Miss Field. "Shall we stop?"

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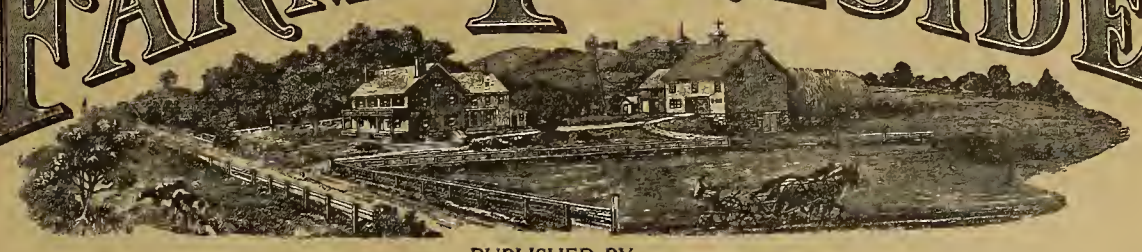
FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

FARM AND FIRESIDE



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The Farmers and Reform

ONCE a man said to the writer that the greatest bulwark against the repeal of abuses in government, by which farmers are sufferers, are the farmers themselves.

There is some truth in this. We as a class are too prone to attend to our own business—our own individual business. This has made us as a class neglectful of everybody's business—our own collective business.

From this comes the disposition of the farming classes to be conservative; and from it, too, comes their tendency to go the whole road when once they take up the cause of progress.

In portions of this country at this time the farmers are true progressives. In other regions they are quite the reverse.

It is time for them to take sides everywhere with reference to certain progressive measures which in even the most old-fashioned states are soon sure to be issues.

We are all in favor of democracy—the rule of the people and the ending of the rule of the Special Interests. As a rising tide grows the demand for new laws framed to the end that the people shall rule. Among these new measures are direct legislation through the INITIATIVE, REFERENDUM AND RECALL. Farmers should study these. We believe that nothing can be done in the way of giving farmers that proper weight in the government of the nation to which they are entitled, but which they have never exercised, so effective as the enactment of direct legislation laws. Many of our readers live in states where this reform is accomplished. These are not within the scope of this appeal. But upon all others we urge the claims of these great democratic measures.

* * *

In Switzerland there is only one state which has a political boss. *That state is the only one which has failed to adopt the initiative and referendum. When every state in our Union has adopted these tools of democracy there will no longer be bosses and machines in America.*

Election of senators by direct vote of the people is a coming issue. It must come if the Senate is to be anything more than a rich man's club standing for the interests of its members and their kind. *As long as railways, express companies, smelting trusts and the like can through manipulation of legislatures elect United States senators, the Senate will be a bar to progress. The tool cannot do work against the hand that wields it. In the language of Isaiah, "Shall the ax boast itself against him that heweth therewith? or shall the saw magnify itself against him that shaketh it? as if a rod should shake them that lift it up, or as a staff should lift up him that is not wood."*

Shall a United States senator boast himself against him that heweth therewith? No! Then let us see that our constitution is so changed that the people shall do the hewing. The election of United States senators by direct vote of the people is necessary to the national welfare. WE NEED PEOPLE'S SENATORS, NOT WALL STREET SENATORS.

A demand has recently been made for more stringent corrupt practices acts. Penal laws alone cannot effect reforms. The awful conditions in Adams County, Ohio, and in other places, arose in defiance of law, and not for the lack of it; but for all that the revision of our corrupt practices acts in accordance with the best models is a good thing and farmers should be for such revision.

* * *

Wherever the direct primary has not been established, farmers should work for it. It is the only means yet found by which the farmer can have as much weight in nominations as does the city man.

Wherever farmers are members of legislatures, they should support laws giving cities the commission form of government, with the initiative, referendum and recall—for every such law passed helps along the People's Power movement by which alone the rights of the class of common men to which farmers mostly belong can be made and kept safe.

There are sinister influences working to keep from us the parcels post. There are sinister influences working to ruin the truth-telling, fearless magazines by raising their postal rates. There are sinister influences looking with greedy eyes on water-power, coal and phosphate lands. Influences like those that said in the days of the prophet, "My hand hath found as a nest the riches of the people: and as one that gathereth eggs that are forsaken have I gathered all the earth; and there was none that moved the wing, or that opened the mouth, or chirped!"

The only way to balk these sinister influences is to put ourselves in the way effectively to move the wing and open the mouth and chirp against them that seek the riches of the people "as one gathereth eggs that are forsaken."

Get behind the People's Power movement, and work for it. Work for popular elections of United States senators. Work for the initiative, the referendum and recall. Work for direct primaries. Help the cities to get the commission form of government. Work for parcels post. Work against the muzzling of the magazines.

Corn Not the Criminal

WE HAVE been taught that the use of moldy or decaying corn for food is the cause of that dreadful disease, pellagra.

This verdict has been arrived at by the European scientists after nearly a hundred years of observation. The disease appeared in this country only a few years ago and is undergoing study at the hands of American investigators.

For some months now reports have reached the press indicating that the American medical men are finding reason to doubt the theory which lays the blame on corn, no matter how thoroughly decayed. And we now have a report from the Illinois commission for the study of pellagra which definitely states that no connection can be established between the disease and the use of spoiled corn. The experiments were made in the treatment of human patients, and a great many tests were made on animals—by the much-condemned mode of so-called "vivisection" which is but another name for the method of studying diseases by animal experimentation. Monkeys and guinea-pigs were used in these experiments, and the research seems to have established the important fact that the world has been laboring under a mistake as to the cause of the awful disease.

Doctor Evans of the commission says that he believes the cause will be discovered, and that when it is, one of the greatest triumphs of science will be scored. The disease is unutterably painful, indescribably repulsive, and so far has proven quite incurable. It scourges certain portions of southern Europe constantly and has been the despair of science. Its outbreak in America has been looked upon as equal in gravity with that of the lodgment of the bubonic plague on the Pacific Coast. But if the study of it under the new conditions shall result in a discovery of its cause—and with that, of its cure—we shall not have been endangered in vain.

In the meantime, the only breath of suspicion that ever attached itself to the fair name of corn has been cleared away.

The difference between a country and city greenhorn is that one would like to know everything, and the other thinks he can tell him.

What is Your Favorite Tool?

EVERY farmer has some tool which seems to him the best. It may be a plow. It may be a new-fangled tool for a new sort of tillage. It may be some old stand-by. It may be adapted to the peculiar conditions of a large farm, a small farm or a peculiar farm. It may be a seeding or planting tool. It may be a hay-making or harvesting tool. It may be in the house, or in the barn, or in the back field. It may pump water for irrigation, or for drainage. It may distribute fertilizer. It may cultivate the crops. FARM AND FIRESIDE, as the National Farm Paper of the Practical Farmer Everywhere, wants a few hundred letters from practical farmers, experiment station workers, orchardists, and in short EVERY KIND AND CONDITION OF FARMER on the subject "THE BEST TOOL I USE."

Of course, there must be a reason. You may have three hundred words in which to tell the reason. These words should be written plainly on one side of the paper. If you have a photograph of the machine, at work or not, or of the results of its work, send it in. We shall publish a lot of these letters, if they are as good as our contributors are wont to write. Those used will be paid for at our usual rates. And for the photographs used we shall pay, also.

Do you see the point of this new departure of ours? Farm papers are prone to dwell on the Why of things. We do. But this beautiful, promising spring and summer we are hoping to lay a little more emphasis on the How. We don't believe that half of us know how to plow, or hoe, or milk cows as well as we should. And for the man or woman who has the tools for doing it Best, we are waiting with editorial pencils poised. Who among the people with the Know-How will be in first, with a good, meaty, three-hundred-word letter on "THE BEST TOOL I USE," telling the Why of it?

Come now, snow us under!

Any washes about the fields or pasture-lands should be filled up before the spring thaws set in, as that is the season during which they begin their destructive work. Then, by doing this now, one will not cut up the fields by hauling over them when the soil is soft.

In Holland, there are thirty-seven local organizations of bulb-growers having a total membership of over three thousand. The export value of the bulbs grown by them annually amounts to nearly four million dollars. England is Holland's best customer. Why could not bulb-growing be made a very profitable industry on our northwestern coast?

Another Reason for Saving the Paper

IN THE September 10th issue of FARM AND FIRESIDE for this year a complete index of the current volume will be published. This will enable readers to find, with the minimum of trouble, any article included in a file of the year's papers.

It is our ambition to make every issue of FARM AND FIRESIDE worth saving. We believe we are successful in this, judging by the many letters we receive from subscribers who have the filing habit. About the most encouraging testimonials we have received were those letters from our oldest subscribers who said: "We have saved every paper we have received since our subscriptions started." Three, at least, of our original subscribers take pride in complete files, from Volume 1, Number 1 to the latest issue—over eight hundred papers, covering over thirty-three years. Think of the care and foresight and interest in the paper that those files represent.

The index will be just one more of the many reasons for saving FARM AND FIRESIDE. It will give new value and interest to everybody's file. "Save your papers."

See final offer of Flower Collections on Page 26

A Canning Factory on the Farm

A Chance for New Profits and How to Make the Most of It— By James D. Bowman

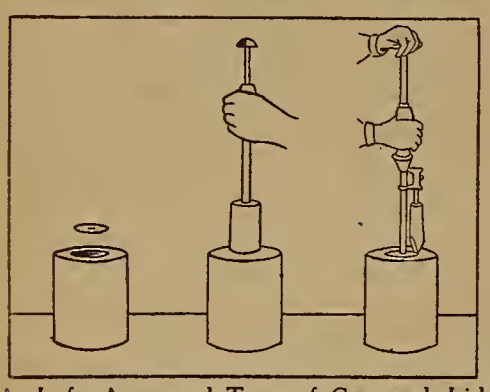
By-products and side-lines on the farm are subjects of growing interest these days; add to this the desire on the part of the owner of a small bit of a farm to get as many dollars as possible from each acre, and you have the reasons for interest in the subject of small commercial canning-plants on the farm.

It is not to the best interest to the farmer to sell his product in as raw a state as the market will take and let some other fellow put it in condition for the table or the merchant's shelves and, incidentally, make the larger profit. We should aim to produce as near as possible a finished product on the farm. Besides, there is a fascination in being a real manufacturer, so to speak, and putting an article on the market bearing your own name. It is attractive also to the children and is a welcome change from the regular routine of farm-work.

I first became interested in this subject three years ago, when I grew two acres of tomatoes for a small local cannery and came out on the wrong side of the balance sheet. The price they paid, twenty-five cents per bushel of sixty pounds (or something over eight dollars per ton), would not enable a man of small acreage to make a living, to say nothing of keeping up the fertility of the soil.

I decided that if I could can tomatoes myself, although it would mean much more work, it would enable us to make two or three times as much per acre. Besides, we could sell fresh vegetables only when the market was good, canning only the surplus, not only of tomatoes, but of other vegetables as well.

When I wanted to study up the business, however, I soon found that the information obtainable on this subject is meager. I wrote to our (Virginia) experiment



At Left, Approved Type of Can and Lid; Center, Capping Steel in Use; Right, Capping Copper

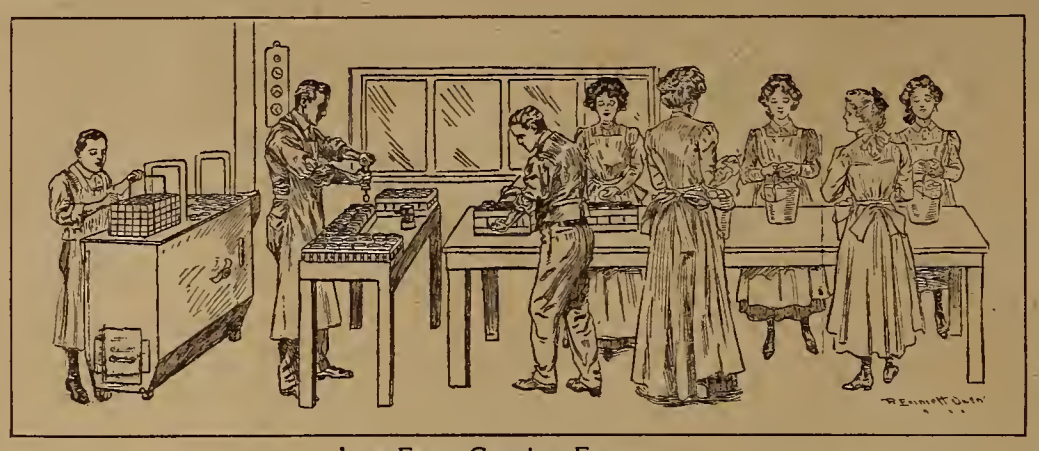
station, and then to the agricultural extension department of the state university, and at last to the Agricultural Department at Washington, all without avail. Ordinarily you can get free bulletins from Washington on any subject from growing soy beans to clearing stumps off your farm, but seemingly they had not investigated this subject. True, they sent me two bulletins, one on canning and preserving fruits, the other on canning vegetables in the home by the so-called intermittent process of sterilization, but both of these, while valuable to the housewife, were useless for my purpose.

So I decided to buy an outfit and work it out from the instructions furnished. These instructions I found to be meager enough, as the making of these outfits was then almost as much a new experiment with the manufacturers as the using of them was with me. The instructions furnished by manufacturers are now much more complete. However, I struggled through the first season more successfully than I had dared hope, and the same season a trip to the regular canning region near the Potomac in the interest of the state experiment station broadened my ideas of knowledge of the business so that I tackled the past season with full confidence.

I have not done a large commercial business, only putting up a few thousand cans, a few of which I retailed to the consumers in a mining town, but most of which I wholesaled to retail grocers in Fairmont, only three miles away from our place.

Certainly, it Pays

So much for my own experience. The question most readers will ask, I think, is: "Will home canning pay on the average farm?" Certainly, it pays, more than anything I have ever attempted, except growing strawberries. As to how much it will pay, that depends on many contingencies: The locality, condition of the crops and markets, how you market and,



In a Farm Canning Factory
From Right to Left are Shown Processes of Peeling, Filling Cans, Fluxing, Capping and, at Furnace, Scalding and Processing

last, but by no means least, the man behind the business. I will give you some figures and you can work your own problem out yourself.

A bushel of tomatoes should fill eighteen cans; I have filled twenty or more from a bushel, but eighteen is a fair average, take one season with another. Cans, cases, labels and all supplies cost me about two and one half cents per can. Under no circumstances should they cost more than three cents, including freight. I have six children between the ages of nine and seventeen. My family can easily put up three hundred cans in one day. By employing neighbors' children to peel tomatoes, which will not cost much, we can easily put up five hundred to six hundred cans per day. So you see we are able, at little expense for labor, to put up many thousands of cans in a season, although we put up less than three thousand the past season, not having the stuff to can.

Factory Prices Versus Home Prices

Factories pay, for peeling, three or four cents per pail of peeled tomatoes. One packer, if she is experienced, will fill from one thousand to two thousand cans per day—say one thousand cans—receiving about one dollar per day. A capper will cap two thousand cans per day, or more, getting $2.50 per day. These figures are for experienced hands, of course, but they give some basis for figuring costs, on an average.

Suppose a man has good soil and intends to grow five acres of tomatoes for a cannery at the railroad. He will do well to get two hundred bushels per acre, or one thousand bushels in all, which he must pick and haul right to the factory, at twenty-five cents per bushel or only two hundred and fifty dollars gross. Now if he has an outfit, costing perhaps fifty dollars, and a shed to work in, he and his family will fill with those same one thousand bushels of tomatoes, eighteen thousand cans, or fifteen hundred dozen. At ninety cents per dozen (the wholesale price this year) they will bring thirteen hundred and fifty dollars gross. The cans and supplies will cost about four hundred and fifty dollars, while ten to fifteen dollars will cover fuel and gasolene (for soldering furnace) and all incidentals, leaving, say, eight hundred and fifty dollars as the return for the year's tomato crop—six hundred dollars more than the factory would give. Figure it yourself if six hundred dollars would be fair pay for the family's six or eight weeks' work.

Will the canned product sell? Readily, and the longer you follow the business, the better the market, for if you take pains, you can produce even a better article than the large canning plants and people will call for your goods.

The Work in Outline

It is not necessary to enter into too much detail as to the work, because the makers of machines and outfits now furnish very complete instructions. But I will give here an outline of some of the important operations gone through, as illustrated by my own experience.

Tomatoes are the most profitable things to can and about the easiest for the beginner. Plant firm red varieties (not yellow nor purple) that are smooth and ripen uniformly to stem without green ends. Some of the best that I have tried are Stone, Paragon and Matchless.

If the machine or outfit has no provision for scalding, use an iron kettle on a furnace—or a stock-feed cooker with portable furnace will do. Use a strong wire basket holding a half bushel or more; have water boiling or nearly so. Put tomatoes in basket and scald by plunging in kettle until skin begins to crack. Don't scald them too much. Put them on a peeling-table or in large tubs, not piling the tomatoes up too much, or they will cook.

Watch the peelers carefully if they are children. Too much tomato should not be cut away and yet all black or rotten places, all peel and stem-core should be removed. Peel from blossom toward stem end.

Packing is very important. A careful woman does best at this. Fill cans full, but not so full as to allow wet contents to press firmly against top, else the solder will not adhere in capping. "Extra-Standard" tomatoes should weigh thirty-eight ounces per can, gross, and, when drained a couple of minutes on a screen on half an inch mesh, the solid contents must weigh not less than twenty ounces, all red ripe. (This is the standard outlined in the Tri-State Packers' Association rules.) It takes experience and "gumption" to pack right. Weigh a finished can occasionally.

After packing, cans are most easily handled on wooden trays holding ten or twelve cans. Clean top of cans with a scrub-brush, using a pail of clear water. Put on the lids, using the solder-rimmed lids, and apply acid or flux with a small flat brush. A small boy can do this.

In capping, use a regular "capping copper" or "capping steel" described in catalogues. Keep them bright; don't burn the tin off, but have them hot enough to melt solder quickly. The business end of the "copper" is a segment of a circle; the "steel" is a full circle. Place point of rod in center of lid, in the little exhaust hole, and give the tool a twisting motion. The trick is done quicker than I can tell it.

"Tipping"—the covering of the exhaust hole—is easy. Put point of common plumber's copper in the exhaust hole, touch it with a stick of solder, and give copper a twist that is easy to learn.

Exhausting and Processing

"Exhausting" is a process canners ought to know about, although in the Berkeley Springs canning region millions of cans of tomatoes are put up and none ever exhausted. Exhausting is simply the heating of contents of cans to one hundred degrees before tipping the hole, or before capping. Generally speaking, if the contents are warm, as are scalded tomatoes or blanched vegetables or fruits that have been heated a little so as to get cans full, do not exhaust. If, however, contents are cold, exhaust, otherwise there will be no vacuum to draw back the bulged ends after cans cool, and they will look like "swells" or spoiled goods, though really all right.

"Processing" is the most important operation of all. It is simply heating the cans to such a point that the contents are thoroughly sterilized. If overdone, the contents will be mushy, if underdone, they will spoil. Spoiled cans are called "swells" because the ends bulge out, and sometimes they explode and spoil labels on other cans.

Use a nice artistic label and put it on neatly. It is slow work till you "catch on," but now with a little experience I can label a hundred dozen in ten hours. Do this on idle or rainy days. It is light work that a girl or woman can attend to.

Use a light board or lid of shipping-box to work on. Nail with small nails two cleats (AA) just far enough apart so the can will lie firmly between them, in the space (C). The cleat (B) should be placed with a square at exact right angles with AA. The other cleats (DEF) form a place for the paste (P). When the label is placed across the can in space (C), exactly at right angles, the end comes in contact with the paste, the surplus of which is scraped off by edge of cleat (D). Grasp label around can firmly with both hands, then set the can up, bringing ends of label together at back. You soon get the knack. This board is almost a necessity.

String-beans are almost as sure a thing as tomatoes, but sweet corn and peas only pay (except for family use or to save a surplus) when put up on a large scale, with expensive machinery.

Corn will seldom keep when put up in an open canner, but I have had good success using a closed steam boiler with gage and safety-valve and processing at fifteen pounds pressure, equal to two hundred and fifty degrees Fahrenheit. This boiler has a capacity of fifteen No. 3 or twenty-four No. 2 cans and cost me fifteen dollars. Not a can in four hundred spoiled this year. However, for tomatoes and fruits the open boiler is as good.

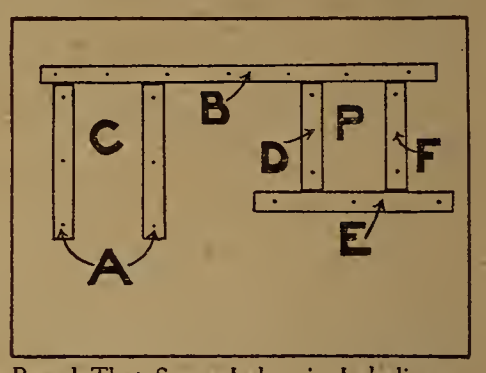
Corn, peas and beans should be "blanched" or parboiled a few minutes before packing.

The length of time to process varies with the goods in hand. Tomatoes take eight minutes in closed steam boiler at fifteen pounds pressure, thirty minutes in open canner. Beans take twice as long as tomatoes, peas four times as long, and corn eight times as long. Those are safe averages, varying somewhat with locality and season.

Don't put in too much juice of tomatoes. I often throw away much juice. Sometimes I mix half tomato-juice with a few scraps of tomatoes and half corn and put it up for family use.

When You Buy Supplies

In buying supplies, if you mean to ship by rail to towns or other points, get cans ready packed in cases holding twenty-four cans each, and use them to ship in. Crates



Board That Saves Labor in Labeling—See Text

holding five hundred cans cost seventy or eighty cents each and are useless afterward. Buy solder-hemmed lids. They cost one dollar and ten cents to one dollar and forty-five cents extra, but have sufficient solder on edge of lid to do capping just as cheaply and much more conveniently than the old way.

Farmers' Bulletins, No. 220, Tomatoes, and No. 289, Beans, and a new one, No. 426, entitled "Canning Peaches on the Farm," are free for the asking either of your congressman or Secretary of Agriculture, Washington, D. C.

Two bulletins have lately been issued that would be interesting to canners and prospective canners—as follows: "Bean-Growing," Bulletin No. 259 of Michigan Experiment Station, East Lansing, Michigan, and "Growing Tomatoes for the Canning Factory," Bulletin No. 144 of Indiana Experiment Station, Lafayette, Indiana.

If you only put up a few cans, you had best retail to neighbors; if, however, you put up any amount worth mentioning, you should sell to the retail grocers in the towns, working up a regular trade and guaranteeing all goods. Don't try to wholesale and retail in the same neighborhood or town. You will make enemies of the merchants if you do, and lose trade.

The pit of debt looks deeper from the bottom.

A merciful man will not swear at his automobile when something goes wrong with it.

When success in business destroys the chance for a successful home life it costs too much to be profitable.

The best farmer is the one who grows up on the old place thinking that right here is to be his life-work, and knowing that he never could be happy anywhere else. That man will set his little end of the North River afire.

EDUCATION IN SCHOOL AND OUT—PAGE COUNTY

Read About the Editor's Pilgrimage to This Iowa County and Its Schools, on Page Two, This Issue

The Old

Page County retains its one-room schools, though all have been improved and beautified. Some, like the one in the picture, have been replaced by new buildings

Miss Jessie Field and Bernard Haggland, Winner of the County Individual Trophy for Best Ten Ears of Corn

The New

This comfortable, up-to-date school-house was built on the same lot as the old one by the people of the district. The better the school, the better the schooling, they believe

Dinner Under the Trees at a Page County School

The bench was the Arbor Day work of the boys of the school

Father's Advice

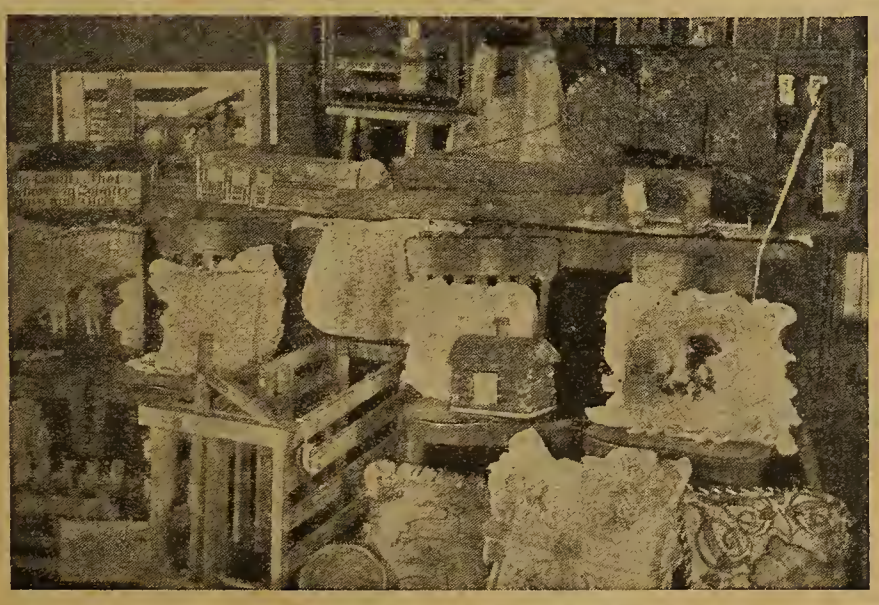
Picking out the best ears for the corn show

Miss Field's Auto With a Load of Young America

Last summer Page County boys had a week's encampment at the Clarinda Chatauqua

"Horse-Judging"—Fun at the Boys' Camp

There were games and sports as well as practice in judging real stock and corn



Farm Devices and Sewing in the County Industrial Exhibition

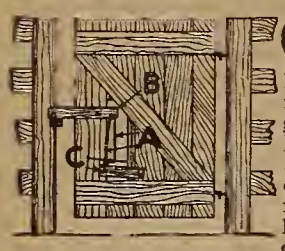
Headwork and handiwork go together in Page County schools

Page County Boys' Corn-Judging Team, 1911

"The teaching in Page seems to revolve about corn"

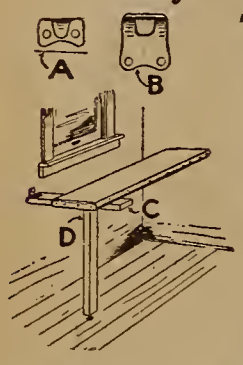
The Headwork Shop

Headwork and Footwork



OUR yard gate opens both ways. I often have two pails in my hands when I go through the gate. It was too slow to set a pail down and open the gate, so I fixed this latch. I have wires (AA) on each side of the gate from the inner end of latch (B) to bottom of the gate with blocks (CC) to step on that will raise the latch. While your foot is on the block push the gate from you and pass through. Open from the other side the same way. The wire to other side of gate goes through a hole made by partly sawing out one of the gate boards. H. E. WARRICK.

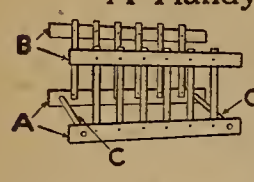
Steady Ironing-Board



THE ironing-board here described is one my brother made, and it is solid, light and handy. On the wall, twelve inches out from the corner, he fastened with screws the hook parts of two window-screen hinges and the eye parts to the end of the ironing-board. Such a hook (A) and an eye (B) are shown in detail above. Any sort of hook and socket will answer the purpose satisfactorily.

On the other wall he fastened by a hinge a piece of board (C) twenty-four inches long, four inches wide, as a rest for end of ironing-board. Four inches from the outer end of this he fastened a leg (D) for support, hinging it so it can be closed up when not in use. In the bottom of the leg is a thick nail with the head cut off, which fits into a small hole in the floor, so leg can't slip. The board is set in front of a window for the sake of the good light. JANET BRADY.

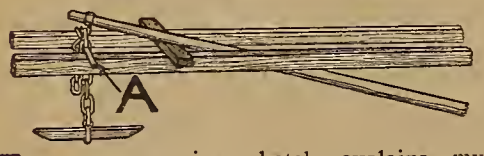
A Handy Rack



THIS handy rack is designed to set inside a wagon-box. The bottom boards (A) of each side of the rack are six inches wide, just a little shorter than the length of the wagon-box, and should be of strong oak or elm. Nail upright staves to these bottom boards, inside. The top boards of the rack (B) can be of any light wood. The two strong crosspieces (C) fit into the holes in the bottom boards—the fit should be just loose enough so the boards can be readily pulled loose from the crosspieces. The crosspieces are just long enough so that they hold the bottom boards firmly out against the sides of the box or bed piece of the wagon. When taking rack out of wagon-box, lift up one side of rack above top of box, pull the bottom board of that side loose from the crosspieces and lift off the rack by halves, thus making it a light job.

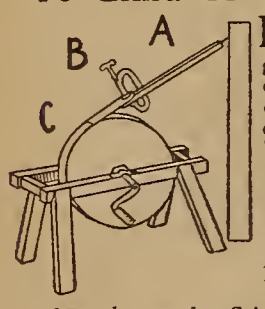
A wire or rope can be stretched between the rear ends of the upper boards (BB), and endgate, made of staves, hung to the wire. WM. HAMMILL.

Lever Lifter for Beef



THE accompanying sketch explains my method of hanging a beef in dressing. A singletree hook is attached to a strong lever with baling wire and caught in a link of a log-chain passed up between two joists of the wagon-shed, or two heavy scantlings or planks fastened across the shed close together. The lever rests on a strong piece of wood laid across the joists as sketched, for a fulcrum. One man can easily raise the carcass one or two links at a time: then the iron pin (A) is run through a link with the ends resting on the two joists, and the hook is put into the chain lower down for another lift. This is easier than raising with a tripod. A wild animal that cannot be got in the shed to kill can be dragged in with a horse after killing. ROBERT BRADFIELD.

To Grind True Bevel Edge



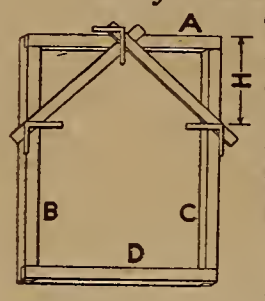
HERE is a carpenter's device for grinding true bevel edges on plane-bits, chisels, etc., with an ordinary grindstone. Take a square stick (A) about three feet long and about an inch thick, put a sharp nail in one end and with a small hand-screw (B) clamp a plane-bit (C) at the other end. Stick the nail at end of stick into a post or the side of a building. Set the stone close enough to give the right bevel. Then with one hand hold the tool and with the other turn the grindstone. The tool will be held steady so you can grind a true bevel. B. F. REINHART.

No Admittance to Cutworms

MOST gardeners have suffered losses from cutworms cutting early-set plants. Here is a way to bar them out. Take tin cans used in canning fruit and unsolder the ends by putting the cans in a fire. When setting plants place one of these tin cylinders over each plant and press it slightly into the soil. This not only protects the plant from cutworms, but from cold winds swaying it about. If there is danger of frost put two or three folds of paper over the top of the can and the plant is secure. Not one plant in a thousand need be lost. Try it.

J. H. HAYNES.

Easy Rafter-Cutting



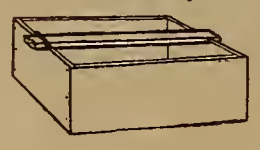
THIS scheme enables the inexperienced hand to cut rafters quickly and surely, and so they will always fit. First, lay the sills (ABCD). Mark the exact middle point of the end sill (A). Also, measure down both side sills (BC) a length equal to the height you want to make the roof, from comb to plate. This distance is labeled H in the sketch. Then lay each pair of rafters on the sills, so that they cross just on the mark at middle of end sill, and go across the side sills just about at marks on them. Lay your square exactly on the marks on the side sills, as shown, and use it as a guide to cut heels. Then lay square on mark at middle of end sill and use it as a guide to cut rafters where they are to meet at comb of roof. F. J. COOMBS.

Hot Water on the Move

HERE is a simple and convenient way to heat water for scalding hogs and such like work. The device consists of a barrel with a pipe fastened in it, with an elbow a few feet away, from which the pipe returns to barrel, both ends of pipe being open into barrel. Fill barrel with water and bnild a fire under the bend of pipe. The water will flow up and into the barrel from the upper part of the pipe as it gets hot. This movement of water through the pipe is continuous and the water can be kept at any temperature. By having threads on the pipe it may be screwed into the holes in the barrel tight enough to hold water.

WILL SHINN.

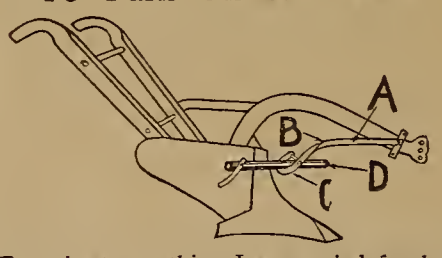
Handy Corn-Sheller



ONE can make the work of corn-shelling much easier by this plan. Fasten a bar of iron across a box about eighteen by thirty inches square and high enough to sit on comfortably. The iron is about three quarters of an inch wide by a quarter of an inch thick and has its edges square, not rounded. The bar is held down by a staple at one end of the box and at the other end rests in a notch in which it is held by a board to sit on.

Both hands are used in shelling. The left is clasped firmly around the bar, between the legs of the operator. The ear of corn is drawn upward by the right hand, the fingers of the left holding it firmly against the bar and slightly pushing it upward. Shell two thirds of the small end first and then turn and shell the butt. Two bushels of the small corn grown here in Washington can be easily shelled in an hour after one gets the hang of it. J. L. KELLY.

To Turn Under Weeds



THIS beats anything I ever tried for burying heavy weeds and grass when plowing. Bolt to the plow-beam, with a bolt a little bit loose, a piece of wagon-tire—three eighths by one and one fourth inches is a good size—of a length to suit the length of your plow-beam. Shape it as shown in sketch, (A). At B give it a half turn, and then at the end form an eye or loop (C) and insert weed-bar (D) through loop. With a three-eighths-inch bolt across loop clamp weed-bar snug. This bar should be of two-inch gas-pipe (I have used a two-inch hard-wood pole, but it was rather light) about two and one half or three feet long. In end of pipe over furrow drill a hole and insert a pin four or five inches long. Let pin slope backward so as not to catch and drag up the weeds.

This weed-bar should be at right angles to the plow or parallel to doubletree, also parallel to surface of the ground. The bar floats on top of the weeds and grass, holding them down until furrow slice turns them under. The pin in end is to drag into furrow any long weeds, etc., that may fall out toward the plowed land. I find the best place for weed-bar to swing is about midway between top of shin and point—about the place sketched—though the user can adjust this to suit himself. The attachment works on the same principle as the chain used by many farmers for dragging down weeds, but it is much better and not in the way when one is turning at the corners.

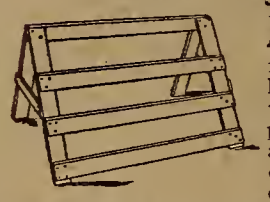
CHAS. L. SHUPING.

Quick and Safe Kindling

ANYONE who tries this kindler will find it very good. Cut or break a corn-cob into pieces about two inches long, put the pieces in a tin quart can (an old fruit-can, for instance), pour over them a gill or two of kerosene and set the can in a safe place convenient to your stove.

When you want to start a fire, shake the ashes from the grate, lay one of these pieces of cob about the middle of the grate and light it. Lay on light kindling, then your wood or coal, and close the stove. If coal, put on only a little at first and some more after a few minutes. E. W. HEATWOLE.

A Pruning Ladder



MAKE this ladder about four or five feet wide and the height required for the trees you are to prune. Make it rigid, and in moving from one side to the other or from tree to tree pull it along on one shoulder and you will find it is very easily moved. The width of it is the best feature. It will not upset and it permits one to prune a wide scope before moving. D. CONGER.

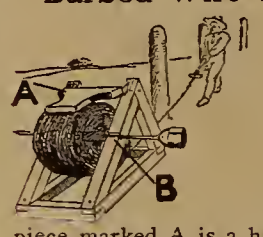
A Strawberry-Vine Trimmer

PROCURE a chopping-knife such as is used in the kitchen. It should be the kind that has a single standard in the center, over which the hand-piece fits. Take off the hand-piece and put in its place the handle of a rake, the knife-shaft going into the end of the stick.

Vines can be rapidly and easily trimmed with this, as one can stand erect to perform the work.

MRS. R. L. PUTZE.

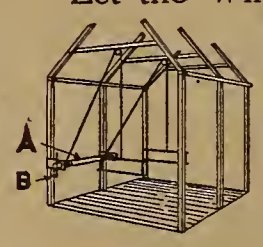
Barbed-Wire Fence-Builder



ONE man can easily build barbed-wire fence by using this simple yet effective device. The illustration speaks for itself, with the exception of one or two points. The piece marked A is a heavy board which acts as a brake and is attached to frame by two small hinges. The part of this board that rests on coil of wire is narrowed to allow it to drop between ends of spool as the coil grows smaller. If the "brake" does not prove heavy enough, add a little more weight. Two slots, as at B, are cut in frame, in which rests an iron rod or digger-handle upon which the coil of wire turns. Make a loop on end of wire, through which pass the hammer-handle, thus preventing wire from cutting the hands. When enough wire has been run off for the first "stretch," staple to post, go back to starting-point and tighten before cutting wire. This prevents waste of wire. Proceed in like manner until all wires are on. Then move to next "stretch," and so on, until fence is completed.

R. A. GALLIHER.

Let the Windlass Do It

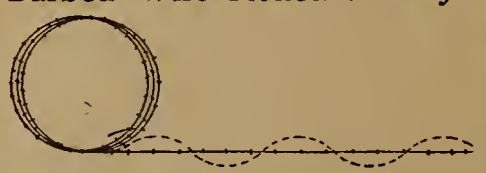


DON'T strain your back lifting a wagon-box on and off. In our barn we have rigged up a windlass, consisting of a rounded four-by-four (A) reaching from one post of barn frame to another, with one foot over, in which to put lever (B). We have a metal ratchet on windlass to hold back as you wind. Ropes from the windlass go over pulleys fastened to joists and end in frames to slip over the ends of wagon-box. These frames are made of two two-by-fours roped together at the ends. VOLNEY L. MARTIN.

Posts Without Post-Holes

HERE is my method of building wire fences, which saves considerably in time and also in the amount of posts: Set good strong posts about ninety feet apart, stretch and fasten the wire on these and then set short posts between them, allowing the short posts to rest on top of the ground. Old fence-posts may be used by sawing them off square. They may be set as closely as wanted. J. L. ROBINSON.

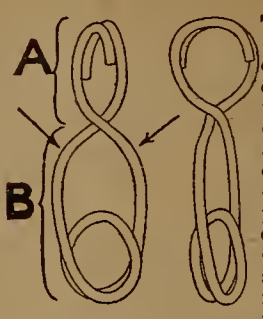
Barbed Wire Rolled to Stay



HERE is a handy way to make a neat roll of barbed wire. Stretch the wire on the ground. Then take one end of it and make a circle in it of about the desired size for the roll or coil. Then start and roll this circle of wire along the main wire, at the same time rolling it back and forth across the main wire as shown in the sketch. The dotted lines show the path the roll should take, crossing the main wire as often as possible to commence with, but as the roll gets bigger it does not need to cross so often. When it is all rolled up thus and the end fastened, the roll can be thrown in or out of a wagon without coming unrolled or tangled.

In rolling be careful to keep the main wire tight by hitching the roll back once in a while. C. F. WHITNEY.

Home-Made Hitching-Snap



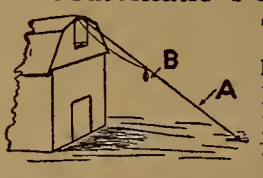
THE snap shown in the sketch is first-class for fastening dogs and calves or for a multitude of other purposes around the farm. It can be made by anyone, with a pair of pliers, from a piece of steel wire stiff enough to have some spring. Bend the middle of the wire around into a loop. About two inches from lower side of loop bend the wires so they cross. Then twist the ends around to make the upper loop (A). Loop (A) should be at right angles to lower part of snap (B); the left-hand sketch shows loop (A) in side view, the right-hand sketch shows it in front view. The ends of loop (A) overlap like a key-ring. To open the snap, squeeze at the points indicated by arrows and slip in the ring or rope as you would slip a key onto a key-ring. J. K.

Rake Stones by Horse-Power

FASTEN thills onto a log and put drag teeth into the bottom of the log. Have handles on the log, also, so you can raise it from the ground. Drag this device along until full of stones, then raise the log, dropping the stones. When you have the stones gathered into rows this way, go over the field with a wagon and fork the stones into it.

MRS. E. J. GOODWIN.

Automatic Fork-Returner



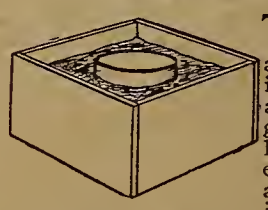
THE accompanying sketch shows a real labor-saver. It returns the hay-fork after the hay is dropped without the trouble of doing it by hand.

A wire cable (A) is fastened to the end of the track for a pulley to run on and the other end should be anchored to the ground some distance from the barn to make room for a load of hay to pass under. To this pulley a weight (B) is attached. From the pulley a rope extends to the fork and carriage. The rope should be just long enough so that when the carriage is drawn out over the load the weight will nearly touch the ground, and the weight should be just heavy enough to draw the fork and carriage back alone. When the hay is drawn into the barn the weight will be raised. Several of these devices are in use in this section and giving excellent satisfaction. G. H. GLITZKE.

Save Strips of Fencing

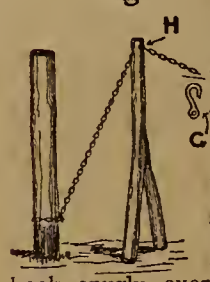
DON'T cast aside as worthless short pieces of woven wire fencing of six or more feet in length. They make durable and light "filling" for gates, and as lumber is becoming more costly, a saving of two thirds lumber in even a gate means something. Make a strong frame, brace well and stretch wire fencing over it and it makes a neat gate. Total cost of gate need not be over $1.50. J. E. RAISER.

A Home-Made Refrigerator



TO HAVE ice-water without a refrigerator or any waste of ice, use a square box and a three or four gallon earthen jar, having the box six or eight inches wider and higher than the jar. Mix two parts dry sawdust and one part salt and put a layer several inches deep in the bottom of the box. Then place the jar in center of box and pack the salt and sawdust mixture tightly around the jar to within an inch or two of the top of it. Put five or ten cents' worth of ice in the jar with enough water to half cover it, and if you have a tight lid to the box your ice will last all day. Add more water when needed. We cover our jar with a granite plate and in that keep a cake of butter, and around the jar eggs and tomatoes. MRS. L. D. LEA.

Lightning Post-Lifter



CUT a forked sapling seven feet long and about five inches in diameter with the forks three or four feet long. At H, six inches from the end, bore a hole through the sapling, crosswise with the forks, large enough to pass a chain through. On one end of the chain, have a grab-hook like G that will hook snugly over the chain or release it easily. To the other end of chain the team is attached.

Set the fork with the top against the post and the bottom about two and a half feet away, pass the chain around the post near the ground and fasten as tight as possible with the grab-hook, start the team and your post is lifted out. Unhook from post and drive on by the next one. The chain being through the fork, the team drags it, which saves the work of the extra man needed to carry a detachable lifter and fasten the chain around the post. For strength and expediency I have never seen the equal of this kind of lifter. I. A. STOKER.

Headwork Winners January 10th

Abner Shaw - Underground Engine-Muffler
A. Luhning - - Cement Grindstone
B. F. Dalzell - Little Giant Rack Lifter

A Mint on the Farm

By A. F. Bonney

IF TWENTY or thirty swarms of bees on a farm is not a mint, I should not know where to look for one, for it is a poor season that a good swarm of bees in a chaff hive will not yield the farmer five dollars. Yes, I know that all the bee books which discuss this part of the bee business will mention a lesser sum, but they are speaking of men who have a hundred or more swarms. It stands to reason that a small number of swarms will gather more honey per hive than will a large number to more hives, therefore the average yield per hive is larger on the farm than in the regular apiary. In 1908 I got some fifteen dollars per hive, in section honey. Had I been producing extracted I should have got nearly fifty per cent. more honey, which, selling at a somewhat smaller price, would have given me something like twenty dollars per hive.

Suppose, however, that you have but five swarms of bees and get but twenty pounds to the hive. That means one hundred pounds of the finest sweet in the world, for your own table if not for sale. A few minutes a day during the three summer months would be all the time required. Twenty pounds is less than I ever produced, while I have had as much as two hundred pounds per hive.

A Business for Everyone

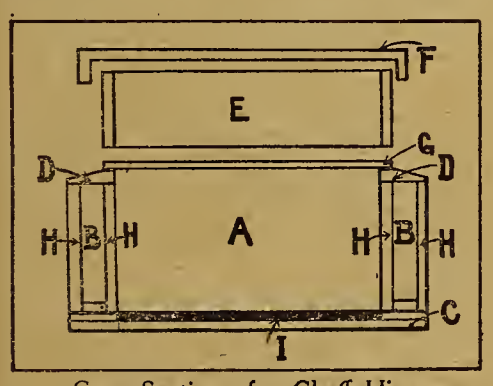
Anyone may keep bees, the number of swarms depending only on inclination and ability to attend to them. There seems to be no age limit, for there are men eighty years old still busy with their bees, and I know of children who attend to several hives unaided. Nor is sex a bar, for there are many women bee-keepers in the country, and they are successful. Of course, health and strength count for as much in apiculture as in any other calling, but persons in delicate health will find bee-keeping a very nice occupation to keep them busy out of doors.

There are but few spots in the United States where bees may not be kept profitably, and these are the treeless, flowerless, clover-less plains. Even the deserts of Arizona are better bee pastures than are portions of the Dakotas, but it will probably not be many years before these states will have many large apiaries. Wherever swarms of bees may be captured it will pay to keep bees, as a general rule, and all locations may be improved by planting nectar-bearing plants, as sweet clover, which, after being regarded as a weed for years, is now coming to be quite widely raised for hay.

To the average person there is no difference in bees, but the apiculturist recognizes a great number of breeds, though there are but a few available to man's use. These may roughly be summarized as the Italian, Caucasians, Holy Lands, Carniolans, Cyprians, Black, or German, and possibly a few more.

About 1860 the Italian bee was brought to this country and at once found favor, until now it is safe to say ninety-five per cent. of our bee-keepers have this breed. It deserves the esteem in which it is held, for Italian bees are good workers and are not given to excessive swarming, while they fight the bee-moth better than any other kind of bee.

Man has kept bees in hives since the earliest dawn of history, as is proven by inscriptions in the tombs of Egypt and passages in the Bible. At first the hive was nothing but the section of a hollow log;



Cross-Section of a Chaff Hive
(See Description)

then came hives of clay, straw and finally such as we have now, made of boards. But it was not until Mr. Langstroth invented his hive in 1865 that bee-keeping became a commercial possibility. The principal feature of his hive was the movable frame. A frame, I might explain for the benefit of the beginner, is composed of four pieces of wood made into a frame nine and one eighth inches deep and seventeen and five eighths inches long, outside, and is intended to hold the comb the bees will make and in which they store honey. The top bar is one and one third inches thick, or wide, and the bottom bar one inch. Wires are stretched from side to side to support the comb. These frames can be readily removed from the hive for examination or to take away honey.

Mr. Langstroth discovered that if a certain space was left about the frames the bees would do well in a cold climate. This was based on the fact that bees will not seal together two surfaces three sixteenths of an inch apart, so now all hives have that space over the frames, which allows the bees to move from one part of the hive to another to reach their winter stores. Similar spaces at the sides and ends serve as air chambers, but what is more important enable the bees to reach every part of the hive to get at the larva of the bee-moth.

The Modern Hive

If the beginner will remember that all modern hives are based on the Langstroth he will not be tempted to buy any patented hives, be they non-swarming, comb-honey or what not, for they will be different from what the neighbors are using, and when he is buying or selling, his frames and theirs will not be interchangeable. The standard Langstroth hive is made by all dealers and is of the dovetail or lock-corner pattern.

This hive is a box eighteen and a quarter inches long, fourteen and a quarter inches wide and nine and a half inches deep, which allows for the spaces around the frames as I mentioned. Because of price the average hive is made of seven-eighths-inch lumber, and is intended to be packed around with chaff or other material or put into a cellar for greater warmth in winter. This brings me to the question of the best hive to be used by beginners, and for that matter others.

I have used all kinds of hives, making them so that I should know all about them, and speaking from acquired knowledge I can assure the reader that there is but one hive for the small-scale bee-farmer to use, unless he is willing to let his bees die off each winter and trust to luck to catch others. Of course, I know about cellars, but let me assure you that not even all the expensive cellars dug by professional bee-men will invariably winter bees successfully, hence it is not likely that the average house cellar will do it, for, regardless of number of swarms, the cellar must be kept close to forty-five degrees Fahrenheit, it must be reasonably dry, well ventilated and free from vermin. All this calls for an outlay which the beginner on the farm or in town could ill afford.

The Three Bee Types—Worker, Queen and Drone

The hive I allude to is the chaff hive, which is nothing more than a regular Langstroth hive surrounded by a box, the space between being packed with chaff or, as I lately discovered, the finer parts of shredded corn-stalks. These spaces are, of course, closed top and bottom. You have what amounts to a refrigerator with the top and bottom removable—a refrigerator that keeps cold out, not in. I believe most Northern manufacturers list such hives, and they differ but little and in unimportant details.

Such hives may be left on the summer stands all winter, and the bees will almost certainly come through in fine shape. There is little, if any, spring dwindling, because the bees do not get warm early as they would in the cellar, fly out and die. There is no carrying the hives from yard to cellar and back. The bees come near to natural conditions, and they will use but little more stores than will bees wintered in the cellar. The season's work over, all one has to do to get ready for winter is put an empty super on a super cover over the brood-chamber, fill super with chaff or other porous material, put the cover on, reduce the size of the entrance with the blocks provided by the manufacturers and you are done. Time, ten minutes.

"Snug as a Bug in a Rug"

The accompanying cut shows a cross-section of a chaff hive. The brood-chamber (A) is the main part of the hive where the bees live, winter and summer, and where the frames are. This is surrounded on all sides by chaff spaces (BB), which remain in place winter and summer. HHHH are the inner and outer walls of the hive; C is the bottom board; I the entrance to hive. A cover to shed rain (DD) remains permanently in place over the chaff spaces to protect them from rain-water. A super (E) emptied of its frames is filled with chaff and set on top of the brood-chamber to keep it warm during the winter. (A super, in bee-keepers' parlance, is a hive, shallow or deep, which is put over the brood-chamber in summer as a sort of second story for the bees to store honey in.) Our chaff-filled super is set on a thin board (G) called the "super cover" or "inside cover." A rain-proof cover (F) is put over the top of the super. I use a shallow, flat-topped cover roofed with tin or galvanized iron, with a rim two inches deep, which fits snugly down around the super.

The idea of putting boxes up into trees in hopes that stray swarms of bees will go into them is not original with me, but so far as I know I was the first to use a large number of them. I now have almost one hundred in use. Moreover, I improved the device, and might have secured a patent, I think.

My improvement consisted in so making the box that it would take in a standard Hoffman frame (which is merely an improved Langstroth frame), and my reason for so doing was that when the bees go into the box the queen finds comb, in which she would at once go to laying eggs—within four days, to be precise. Hence, when I take down the box all I have to do to remove my swarm was to take out the frame containing the brood (larval bees produced from these eggs) and put it into a hive where the other nine frames were waiting for it. The rest of the bees are then shaken out in front of the hive, another frame is put into the box and it is replaced in the tree. Working in this way, the bees will always stay where they are put, to take care of the brood, but without brood to hold them they may leave.

A Place Like Home

My tree box is made seventeen and seven eighths inches long, nine and one fourth deep and six inches wide, inside measurements. Cut notches in the inside edge of the end pieces, both in the center, to take the ends of the frames, and on the inside of one end put blocks to keep the frame from moving sideways. In one end of the back put a stout loop of galvanized wire to hang the box up by. Cut hole or a slot one fourth by four inches close to the bottom end to serve as an entrance. Make a little door to swing or slide, to be used to shut the bees in when you take the box down. The box need not be very tight, just so the bees cannot get out. A perfectly plain box will serve to catch bees, but is not nearly so handy as the one I describe.

The cover is cleated and is fastened on with lath nails, screws or crate staples so it is easily removable. When a swarm goes into the box, which can be told by seeing the bees coming and going steadily, take it down, remove the cover and proceed as before mentioned.

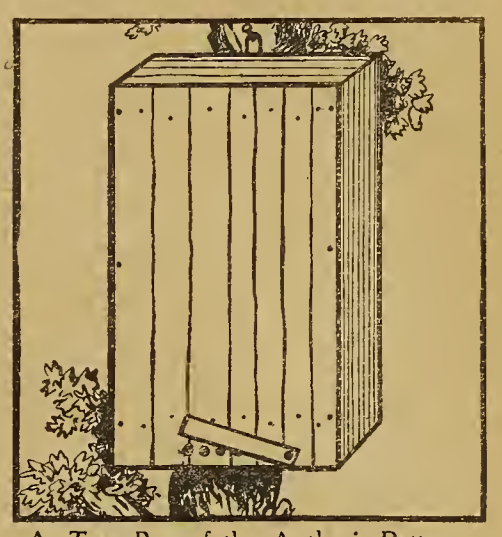
How to Get Started

The proper time to get ready for bee-keeping is in the winter, by reading up on bees and bee-yard appliances. There are several good bee books published, one of which you should get, as well as a catalogue. Then having decided how many hives you will buy, order them not later than May 1st. April 1st is better. Make several tree boxes between the time you begin reading and May 15th, so as to have them ready to put up the last week in May. (I give the dates found best in my own experience, here in Iowa.) Get your hives and frames together and foundation in your frames, and have your supers ready by June 1st. Foundation, you will find, is wax in thin sheets made to resemble the midriff in honey-comb. It is put into frames to save the bees time in building comb, and also to make sure that the combs will be in the center of the frames and that there is little or no drone comb in the hive. You are now as well prepared as you can be until you have gained experience.

With each hive order a wood-and-wire honey-board, with openings large enough to let worker bees pass, but too narrow for the larger queen. This is used between the brood-chamber and the super to keep the queen from going above to lay eggs; for if she did, the brood hatching would darken the comb. You will want with each three hives a bee-escape in a board, which is a device to get the bees out of the super when you want to take it off to get the honey out. You will need a bee veil—the Alexander veil is a good one—a smoker made of copper and a pair of gloves with long cloth gauntlets. Add to these a pair of bicycle-clips for the men and a pair of bloomers for the women-folk, and you can work with bees and never get stung. The time will come when you will cut off the ends of the fingers and thumbs of the gloves, then you will discard them entirely, and, while you may not believe me, you will many times forget to put on the veil. You will want a hive tool, and a screw-driver makes a fine one. This is used to loosen the super from the hive and separate the frames.

Three Kinds of Market Honey

As I mentioned briefly, supers are extra hives, shallow or deep, which during the



A Tree Box of the Author's Pattern

honey-flow are put over the brood-chamber for the bees to store honey in, which they will do if either frames containing comb or foundation are given them, or else sections in which is foundation. Sections are the nice little square frames filled with honey which we are accustomed to see, and were at one time very popular, but many old bee-keepers are now abandoning them. There are two other kinds of honey produced: Extracted, which is honey thrown from the combs by centrifugal force, and bulk, or chunk. The last mentioned is nothing more than comb-honey cut from the frames and sold; it may even be section honey cut out because unfinished or spotted with bee-bread.

Supers which take the four-by-five sections also hold the five-inch extracting frame, and while the beginner may be led to buy supers fitted for producing section honey, I strongly advise that they work only for the bulk until they can afford an extractor, and to this end buy hive bodies of the dovetail pattern fitted with frames not wired. These frames are the same size as those in the brood-chamber. I advise this, because with such hives to be used for supers one has always on hand something in which to put a swarm of bees, if they get one unexpectedly. You can improvise covers and bottoms until you can buy more, if you wish to increase your swarms.

Producing for the Market

I know of no reason why the amateur should try to produce section honey. It meets the demand in cities for a small quantity of honey in convenient shape to be delivered at once, but it takes vastly more work to produce it, and to get it puts the bees into a swarming condition which necessitates that they be watched constantly. So I advise that you use either a dovetail hive as a super, or a regular super fitted with frames, in connection with the queen-excluding honey-board, for by its aid one gets sheets of nice clean honey, which from clover and basswood is pure white. I never yet have got less than ten cents a pound for this above the cost of container.

The machine used in extracting honey from the comb works on the same plan as does the cream-separator, centrifugal force; the honey is thrown out of the cells after the capping has been removed. It is run off into a tank and allowed to settle, then drawn off into containers. This gives the bees back the same combs to be refilled, which saves them a deal of labor. A small separator can be bought new for about ten dollars, and not many men ever need a larger size. Having the honey in convenient shape to sell is desirable, while the machine will take honey enough from discolored combs to soon pay for it. One can often sell the extracted honey where they could not the bulk.

Forty Years Among the Bees, How to Keep Bees, Advanced Bee Culture, ABC and XYZ of Bee Culture, Langstroth on the Honey-Bee and Quinby on Bee-Keeping are all good books, and no one should try to do much with bees until he has studied some such work. I do not advise amateurs to read the bee journals, for they are filled with advanced discussions which would only confuse. However, after your first season begin reading them. Do not hesitate to ask your nearest bee-keeper neighbor for advice, for bee-keepers, as a rule, are a sociable lot, always willing to help the beginner, even to lending bees, hives and appliances.

Make haste slowly, for a year or two is not too long to get a good grasp on the rudiments of the business.

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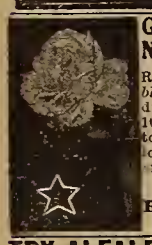

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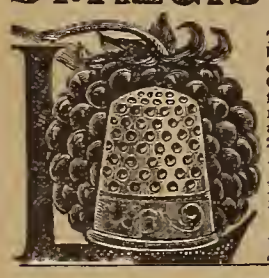

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GARDENING

By T. GREINER

Few Gibraltar Onions This Year

NO ONION variety that I know of could take the place of the Gibraltar for size or mildness. I just learn that the failure of the Gibraltar seed crop was so complete that not a single pound of it was harvested in 1910. I have managed to secure a small quantity of 1909 seed, and if you can do the same, and get it to grow all right, you will be lucky. It seems strange, however, that the big seed firm which introduced this onion some years ago cannot succeed either in growing or having grown for them all the seed that customers may want.

Growers, Get Together

I wonder whether the business of growing fruits is so much more important and extensive than that of growing vegetables. When we see fruit-growers everywhere banding together and forming great organizations, so as to be better able to further and protect their own interests, we may think it strange that there is so little of the same spirit in their vegetable-producing brethren. The latter are slow in making any efforts for coöperation, in coming together or forming organizations. An attempt is now being made, however, here in New York, to organize a "Vegetable-Growers' Association," the preliminary meeting having been called for "Farmers' Week" at Cornell University, this month.

It is to be hoped that the move will be successful and imitated elsewhere.

New Small Fruits of Promise

I class small fruits as garden crops because they fit well into the general line of products carried by the market gardener. Mr. Alderman's report on newer fruits as tested at the Geneva station mentions the following:

The Prolific strawberry gives some promise as a leading commercial fruit, while Magnus, although fine for the table, is not prolific enough. On the station grounds no fall-bearing strawberry has proved a success. All have given few plants and few berries, and the berries were inferior in size, color and flavor.

The June red raspberry, which originated on the station grounds, is almost equal in vigor to the Cuthbert and by several days the earliest variety. Altogether it is considered good for early market.

Plum Farmer has made the best showing of any black-cap tested. I have it on my grounds, and all I object to is the name. The Himalaya blackberry was introduced by Luther Burbank. The claims made for it are very tempting. Its behavior, however, has been disappointing. The fruit is large, but quality poor. Perfection currant is well spoken of. It is worth a trial.

The Scallion Problem Again

Further inquiries have come in regarding the causes that make onions grow thick-necked rather than produce nice well-finished bulbs.

The finest-shaped and most solid bulbs with the smallest tops which I ever grew were produced from Prizetaker seed sown directly in open ground in early spring, in sandy loam (in New Jersey) that had but a very moderate supply of humus, and was manured with a fair amount of poultry-manure and commercial fertilizers, including some nitrate of soda. This was, I believe, the second year after that variety was first introduced. There was no tendency then to make thick-necked or "scallion" onions. Possibly the tendency has increased since.

Undoubtedly such a tendency is inherited in some strains of onions. Then the trouble is in the seed, dormant perhaps, but sure to crop out when soil and weather conditions favor this development.

My experience is that soils in which humus predominates, as in mucky and peaty soils, scallions are far more liable to be found than in soils less abundantly supplied with decaying organic matter. If we put extra doses of nitrates in the muck and peat soils, we increase the chances for scallions, especially in a wet season. I have never been able to put too much humus or too much nitrogen into my rather strong loam, but I try to have a proper balance of plant-foods and always a free supply of the mineral elements. If I had to plant on muck, unless very sandy, I would try to use more wood-ashes or potash and phosphoric acid in commercial chemical forms, and less of nitrates or of bulky and nitrogenous manures. A fertilizer answering the formula 5-8-5 may be applied at the rate of five hundred to one thousand pounds per acre with perfect safety.

Blue-Grass Sod for Onions

An Iowa reader wants to know how to grow onions on a piece of blue-grass sod. If rich or well enriched, it may do first rate, provided that we can get a nice mellow seed-bed on top, even if only a few inches in depth. Onions do not require a very deep soil. Sometimes big crops are raised on rich sod land without additional manuring, but I prefer to use stable manure, plowed under. Poultry-manure scattered on top and thoroughly harrowed in is usually of great help. Half a ton or more of a good complete fertilizer, say 6-8-8 or 6-8-10, per acre often gives good results. In some cases lime is needed or helpful. We cannot always tell just what is needed.

An acre of land contains 43,360 square feet. If I wish to measure the area of a piece of ground, I do so by stepping it off, taking large steps and figuring it out on the basis of three feet to the step. It comes very close to the truth.

Watermelons After Watermelons

A Kentucky reader inquires whether it would be safe to plant watermelons on ground where watermelons were grown last year. Rotation of crops is always safe, but watermelons on the same piece of ground I cannot see any special risk in growing for two or more seasons. Muskmelon-growers in this county often raise this crop for many years continuously on the same ground with success. Why should watermelons do differently?

There are certain contingencies, however, that would introduce risk into this plan—diseases and insects. Where these are prevalent from year to year a shift of ground might be better.

Late and Early Tomatoes

My advice to readers is to try, for once at least, the Ponderosa and the Tenderloin tomatoes, and see if they are not of particularly fine quality. For a late tomato to satisfy late calls from customers that require quality, these two sorts, or others of the same type, may answer to perfection. They are especially fine for slicing, to be eaten raw. One specimen of the Ponderosa, last summer, was sufficient to give a generous dish of sliced tomato for each member of our family of six.

For real business tomatoes, here in our short seasons, we must still rely on those of the Earliana type, of which we have very fine strains, that give us good-sized and very solid fruit. In short, the early tomatoes are our real money-makers.

Buying Garden-Seeds and Fruit Trees

A reader in Ohio asks me to tell him where he can procure good garden-seeds and fruit-trees true to name. It is easy enough to get good garden-seeds. Apply to any seedsman whose advertisements you find in the columns of FARM AND FIRESIDE. You can get good seeds from any of them.

You will have to be careful about nurserymen. Some have a bad habit of substituting one variety for another when short. Advertisers in FARM AND FIRESIDE can be depended on.

Lettuce Experience

LAST season we received good profit from our crop of Grand Rapids lettuce grown in frames and in a cheap structure of a greenhouse covered with sash, depending on sunlight for heat, with only a stove to prevent freezing during severe cold spells in the spring—better profit, in fact, than from that grown in a substantial greenhouse, earlier, with hot-water heat; for the price for the greenhouse crop was lower at the season when we got the crop, besides having the expense for fuel and extra care and attention in fighting aphis or green fly charged to its account.

We get best results from sowing our Grand Rapids lettuce-seed rather thinly in frames during the latter part of September and early in October and covering with sash when severe freezing weather comes. In this way we manage to always have a supply of plants ready. Sometimes we have to pry up the soil with plants when frozen and take it to the greenhouse to thaw, but these plants grown in frames always save several weeks growing and valuable space in the greenhouse, and they are always ready when wanted.

C. WECKESSER.

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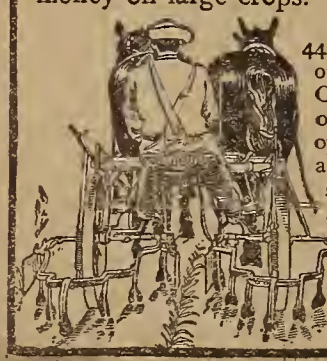

Works two rows at one passage, all widths from 28 to 44 inches,—and what's more, works crooked rows, and rows of irregular width; and surprises everyone in check-rows. Cultivates crops up to 5 feet high. Covers two furrows of manure, potatoes or seed at a time. Never leaves open furrows next to plants. The Planet Jr is designed and built by a practical farmer and manufacturer. It simplifies the work and prepares for big results. Strong, compact and lasting. Fully guaranteed.

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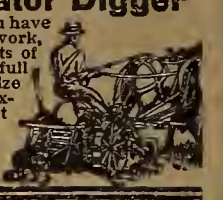

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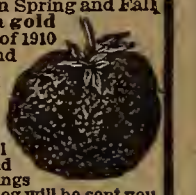

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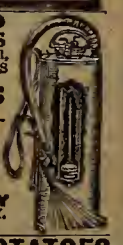

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How and When to Sow

Fruit-Growing

Pruning—How and When

THIS article is written to serve as a guide to readers of FARM AND FIRESIDE regarding the correct methods of pruning as practised by many of the successful fruit-growers in the Pacific Northwest. Pruning is one of the essential factors in aiding the growing of the large red apple so famous in this section. While a report of this kind cannot cover the broad subject of pruning completely, it aims to present the kernel of the whole proposition, and the points discussed are well worth the careful consideration of all, whether pioneers or beginners in the business.

While no fixed rules can be given regarding pruning, that will apply to every tree, everywhere, there are, however, a few principles which, if kept in mind by the operator, will facilitate matters considerably. Each tree offers problems peculiar to itself that can be solved only by the good judgment of the man with the pruning-shears; but the following points should be observed in every case.

In the Young Orchard

1. A balance between the top and roots should be restored before planting the young tree. This point is of paramount importance to the beginner. In the nursery, the equilibrium between root and top has been disturbed by clipping off many of the feeding roots, and in order to overcome this defect, the grower should cut back the top accordingly.

2. Regulate the number of limbs by distributing them at proper distances from the ground and doing away with weak crotches. This can be done more economically at the time of planting. If one-year-old trees are used, they should be cut back to within thirty inches from the ground. Four to five scaffold limbs are all that are necessary to make a well-balanced tree. If a low-headed tree is preferred, let the first scaffold limb come out fifteen inches from the ground. This leaves fifteen inches in which to distribute the other three or four branches. All buds should be pinched off lower than fifteen inches from the ground. Avoid allowing two of the limbs coming out in one place, as poor crotches result.

3. Obtain an open-centered tree, in order to facilitate sunlight, which is essential for the proper coloring of the apple. Highly-colored apples bring top prices in most markets. In order to show the importance that color has in the selling of the apple, Mr. Frazer of New York makes the following statement: "The question was asked, 'Is a fine color of more importance than flavor?' From a total of one hundred and eight replies from representative commission men in all the leading fruit markets of the United States, sixty-three per cent. consider fine color to be of more importance than flavor."

In the Bearing Orchard

1. All crossing limbs should be removed. Spraying is quite an item in the expense of an orchard, and with all superfluous limbs removed before the application, less material will be needed.

2. Prune to encourage the production of fruit rather than wood.

3. Prune to prevent the lower limbs from hindering cultivation; the upper ones from growing out of easy reach for spraying and picking.

4. Prune to prevent the "off year habit" in trees.

5. Prune to correct too compact or too spreading growth of top.

If the grower strives to master the art of pruning, his success will be based on the observance of the above-mentioned rules.

Since pruning is such a vital factor in the development of a commercial orchard, the time of performing said operation is of vital importance. Hence the necessity of drawing comparisons between winter and summer pruning.

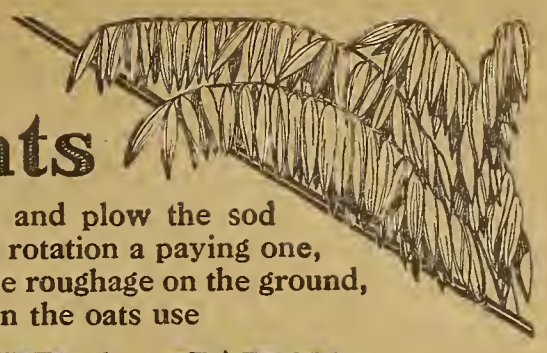
Winter Versus Summer Pruning

The practice from time immemorial has been to prune the orchard in the winter. In the minds of many manipulators, no other reason is known aside from that of convenience. The growers should know the principles involved and when winter pruning may with profit be exchanged for summer pruning.

Generally speaking, an apple-tree may be pruned in any month during the winter without any serious injury, but experiments have proved that there is a definite time during the winter months when it may be done more advantageously—in late winter or early spring. At either of these times the flow of sap is not far distant and the wound heals quicker, thus preventing excessive drying. It is not good policy to prune in mid-winter as the wounds remain too long exposed to the action of the rains, winds, etc., before healing takes place. Early winter pruning or soon after the leaves fall is preferable to that of mid-winter, since there is usually

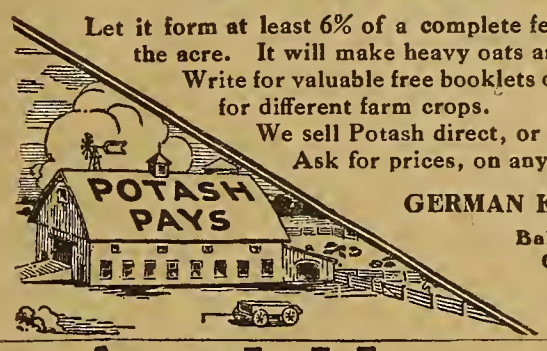
[CONCLUDED ON PAGE 11]

If You Raise Oats



follow the oats with clover and plow the sod for corn. You will find this rotation a paying one, especially if you leave all the roughage on the ground, but—you can do better. On the oats use

POTASH



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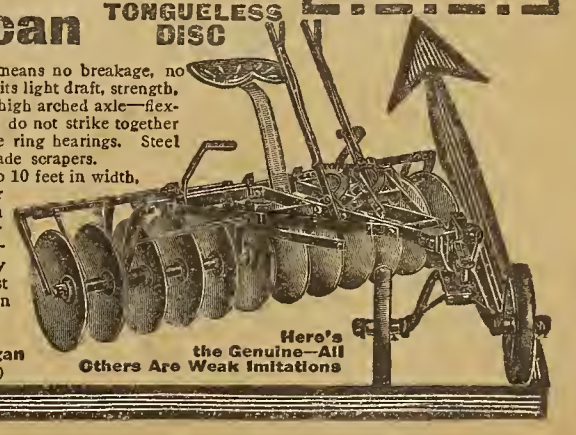
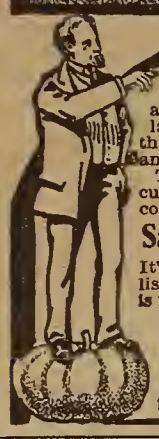


Here's the Genuine—All Others Are Weak Imitations

ALFALFA



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Garden and Orchard

The Newest in Pomological Progress

ROCHESTER, New York, has often been called the "Mecca" of the fruit-grower. The Empire State is undoubtedly the only state in the Union that can boast of the possession of two such big organizations of fruit-growers as the New York State Fruit-Growers' Association and the Western New York Horticultural Society, each one having a membership of one thousand or more. But the Empire State also has two institutions that are the leaders in thought, investigation and progress; the state experiment station at Geneva, under Doctor Jordan, and the Cornell College of Agriculture, with its experiment station, under Doctor Bailey.

At the last meeting of these two fruit-growers organizations (1910) it appeared to have become settled that lime-sulphur solutions or compounds have crowded nearly all other spray materials, as winter sprays, out of general use and favor. The last meeting of the state fruit-growers, held January 4th to 6th of this year, seemed to settle the final fate of the old and once so popular Bordeaux mixture, and likewise of Paris green. This brings the lime-sulphur solution to the front even as a summer spray, with arsenate of lead as the chief, almost only, poison for general uses. To the older readers of FARM AND FIRESIDE this should not be much of a surprise. I have freely given expression to my belief, in these columns, that this was the drift of the evolution of our spraying practices.

A number of fundamental propositions tested in thorough and extensive trials, especially by Professor Whetzel of Cornell, may now be accepted as probable or settled facts. Among them is that home-made concentrated solutions are not only as effective as the commercial ones, but considerably less expensive; also, that the commercial solutions are perfectly reliable and often more readily available than the home-made solutions. It is further settled that arsenate of lead can be safely combined with lime-sulphur solution and that, in fact, the addition of two pounds or more of that poison to fifty gallons of the spray solution will about double the fungicidal value of the lime-sulphur, besides adding to it its certain insect-killing qualities. Almost all of our fungous pests and all leaf-eating insects can be controlled by the use of this combination, if applied at the right time.

The lime-sulphur compounds, made after the older formula, had to be used at once and as hot as possible. The newer concentrates can be used cold, diluted with cold water, and stored in tight barrels or other receptacles for a considerable length of time, even for another year's use.

Controlling Pear-Psylla

The pear-Psylla has been quite destructive in some of the New York pear-orchards. Professors Whetzel and Hedrick, the latter of the Geneva station, now recommend scraping all the rough bark off the pear-trees, then gathering the scrapings and burning them. Many of the winged adult Psyllæ are hidden in that bark. Some growers have left the bark in the orchard, but gave it a thorough spraying with whale-oil soap and kerosene emulsion or miscible oils, at the same time spraying the trees, covering trunk and larger limbs thoroughly. Spraying with lime-sulphur, winter strength, say one to eight or nine, as late as possible, but so as to have finished just before the tips of the leaves appear, will kill the eggs and control the pest.

Entomologist Professor Parrot spoke of the false tarnished plant-bug as having done considerable damage in pear-orchards. It is the cause of knotty, gnarly pears. In a large orchard in Lockport, New York, seventy-five per cent. of the fruit was affected. He believes that this bug can be controlled by the same means recommended for the pear-Psylla.

Some Promising New Fruits

Among the newer fruits which have been found promising at the Geneva station are mentioned: Illinois peach, ripening just before Early Crawford, free-stone, of good quality, above medium size, almost free from brown rot and an early bearer; Deacon Jones apple, large with large core, mild sub-acid, of good quality, tree an early and regular bearer; Wagener Improved apple, larger than the old Wagener and promising; Rome (or Rome Beauty) apple, large, of good quality, handsome, a good shipper and hangs better to the tree than any other apple except Deacon Jones; tree an early bearer, and fruit a good seller at good prices.

Orchard Cover Crops

A number of plants were mentioned as suitable for orchard cover crops, among them oats, oats and peas, Mammoth clover, Crimson clover and finally vetch, either alone or in combination with rye. This last makes undoubtedly a superior cover crop and is everywhere considered as the best for orchards. Sow it the last week in July or the first week in August, one half bushel per acre. The seed is as yet mostly imported and last year cost eight and a half cents per pound.

Vetch is used in the fall as a robber crop, checking the growth of the trees; during winter as a blanket, and in spring as a manure crop. Mr. Bassett tells of winter-vetch plants having grown twelve feet long from root to tip end.

The Box-Pack Problem

Eastern apple-growers apparently begin to realize the need of greater efforts in meeting Western competition. It becomes plainer every day that the box-pack must take the place of the barrel-pack for fancy varieties in the East. What chance has a barrel of even high-quality western New York apples packed in the usual "loose" manner, especially with a lot of culls in the center, against the snugly-packed box of beautiful Western fruit? About the same as a person, even if in the prime of manhood, but equipped with an old rusty muzzle-loader, has against a physically much weaker person armed with a modern repeating-rifle.

For cooking apples, says Professor Wilson, the barrel is a good enough package. But we have in the East a large number of fancy varieties for which the box package is better adapted, such as Spy, McIntosh, Fameuse, Jonathan, King, Rome, Yellow Newtown, etc., also a number for either box or barrel packing, like Baldwin, Greening, King.

The Pomological Department of Cornell University has issued a circular on packing apples in boxes for free distribution in New York State. It gives plain instructions and illustrations of both the Cornell packing-table and the nailing-press.

The right size or sizes of the apple-box is as yet the bone of contention between Eastern and Western apple-growers, and the stumbling-block in the way of the passage of the Lafean apple bill still pending in the House of Representatives. The East wants the full bushel box, while the West has a short box in two sizes—namely, the standard, being ten and one half by eleven and one half by eighteen inches, and the special, being ten by eleven by twenty inches. These two sizes seem to be best adapted for packing the Western apples. T. GREINER.

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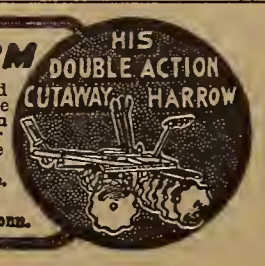

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800 Bushels From 20 Acres

of wheat was the thresher's return from a Lloydminster farm in the season of 1910. Many fields in that as well as other districts yielded from 25 to 35 bushels of wheat to the acre. Other grains in proportion.

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are thus derived from the FREE HOMESTEAD LANDS of Western Canada.

This excellent showing causes prices to advance. Land values should double in two years' time.

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FARM AND FIRESIDE, Springfield, Ohio

Potash Prices Please Farmers and Dealers

Sales to them Increase.

The long published statement regarding the potash situation, signed by Mr. Bradley and others, contains some near truths, much argument and some opinions of attorneys, the latter being evidently influenced by their clients' presentation of their troubles. All of these need to be considered in connection with the following facts:

Mr. Robert Bradley did not sign the contract July 1, 1909, but according to Mr. Schmidtmann it was signed by Mr. Peter Bradley in New York, August 18.

The statement of the Prussian Minister of Commerce in the German Parliament on July 7th contained the following:

"Being a man of caution, I have already drawn up a prospective law, which naturally I have not yet placed before the Bundesrat. Now everybody knows where he stands and can arrange his business accordingly. Whether the potash syndicate will be formed is not material. The question rather is, whether it will be possible to counteract the consequences detrimental to the general welfare."

It is quite inconceivable that Mr. Bradley should not know of this on August 18th, when the contract providing that "any export or import duties or other governmental charges which may hereafter become effective within the life of the contract shall also be paid by the buyer," was signed.

Under the circumstances the signing was a speculation which so far has not been successful, but he made a bad guess on what was going to happen and Mr. Schmidtmann out-traded him.

The other 68 buyers who see fit to cast their lot in with Mr. Bradley had contracts with the Sollstedt mine, which did not expire until 1917. These contracts guaranteed the average price paid by the two greatest American fertilizer corporations, and had they not consented to change them the mine (which had been purchased by another American corporation, the International Agricultural, of which Mr. Schmidtmann is president), would have been obliged to pay the tax.

However, in September or October they saw fit to sign supplemental contracts in which they assumed all taxes and other governmental charges, German or American. They, too, made a bad guess and were outwitted by Mr. Schmidtmann.

The trade lists show about 600 fertilizer manufacturers in the United States, so that only about one-tenth of them are represented in the present contention. Among those who are not asking the government for help in trying to get an advantage over their competitors is the Virginia-Carolina Chemical Co., the largest fertilizer corporation in America. On the contrary, the German mine Einigkeit, controlled by the Virginia-Carolina Co., recently joined the potash syndicate.

Mr. Bradley's ideas on conservation seem to consist mainly of "filler." The fact that the law requires an increase of at least five per cent. yearly in the quantity mined proves that there is no intention of limiting production. The conservation policy of the law is that the mining shall be so regulated that mines more favorably situated shall not export their products at a price lower than the average cost of mining and lower than that for which the Germans themselves can secure the same products.

We have every reason to believe that the German Foreign Minister did not assure Ambassador Hill that "it would not invalidate or impair the American contracts," but that the assurance was given that a provision would be made so that the American buyers need not pay more for their potash than had been paid in previous years. This promise was faithfully carried out and this provision stands in the law, but the buyers have never asked for the liberal reductions which it permits.

Mr. Bradley dramatically inquires: "How, therefore, can Germany afford to start a tariff war with the United States?" Germany has no such intention. A small but noisy fraction of the American fertilizer manufacturers is trying to convince the American government that it ought to start a tariff war in order to get them out of a bad bargain.

In the meantime, the potash business is getting lots of effective advertising. Farmers and dealers are buying direct in greatly increased amounts at reduced prices, and are quite satisfied with the situation since it permits them to mix their fertilizers at home at much less cost than they can secure them in ready mixed form.

GERMAN KALI WORKS.
By H. A. Huston, Secretary.

Garden and Orchard

Pruning—How and When

[CONTINUED FROM PAGE 9]

enough sap to start the callousing-over process before severe winter comes on.

The effect of the annual winter pruning of the tree is to produce wood rather than fruit. In a thrifty, healthy, unpruned tree there appears to be a balance between the roots and the top of the tree, or, in other words, a sufficient number of rootlets to furnish every bud or growing part of the tree with the necessary elements for plant

Jonathan Apple-Tree Before Summer Pruning

growth. If too many of the large limbs are removed, there is a lack of equilibrium, and when spring comes the roots still send up more food material, thus causing more sap pressure on each bud. As the amount of pressure on the bud determines its rate of growth, a longer shoot is the result. Thus we can readily see why discretion should be used in renovating old neglected orchards. Neglected trees may be brought back into a good state of bearing by removing only a part of the wood the first year. If badly neglected, two or three years should be used in bringing the tree back to its natural self. A too severe cutting back will result in a thicket of water-sprouts.

Summer pruning heretofore has not been generally practised in the United States. One reason for this tardy adoption of it has been that many growers did not know of the method. Besides, there is real inconvenience to it. Usually during the summer the grower is busy thinning, cultivating, etc., and does not care to take the time for the necessary pinching or cutting back required. However, summer pruning should be more widely practised by orchardists, especially by those in the Eastern states, for it not only has a tendency to bring the tree into earlier bearing, but actually increases the yield, as indicated in data presented below.

Same Tree After Summer Pruning - About a Third of the Year's Growth Removed

If summer pruning is resorted to, the best time to perform the operation is in July or early August. At this time the tree has practically finished growing for the year. Success will depend largely upon when the work is performed, for the following reasons: If the pruning is done before the tree has ceased growing, it will have a tendency to force out the adventitious buds and buds below the cuts, which results in a growth of shoots. On the other hand, if done too late in the season, no opportunity is given the buds to swell into fruit-buds, which is the object sought by summer pruning.

If summer trimming is practised, the tendency is to produce fruit rather than wood. The principle involved is as follows: During the early summer much of the reserve food is used by the tree in throwing out leaves and making new growth. By removing part of the growth at just the proper time, some of this reserve food material will be deposited in and behind the buds, causing them to increase in size considerably, thus producing fruit-buds.

During the past five years the horticultural department of this institution has been conducting experiments to determine whether winter pruning presented any advantages over that of summer pruning and vice versa. The trees under observation were planted five years ago, and the pruning began the first year. The following figures show the difference in yield between the winter and summer pruned trees, which were grown under like conditions as regards soil and climate:

Ten trees of the Wagener variety, winter pruned, made a total yield of 261 pounds, an average of 26.1 pounds per tree. Ten trees of the same variety, summer pruned, yielded 543.5 pounds, or an average of 54.3 pounds per tree. That is to say, the summer-pruned trees very nearly doubled the yield of the winter pruned.

The ten winter-pruned Jonathan trees yielded 252 pounds, or an average of 25.2 pounds per tree; 303 pounds were gathered from the ten summer-pruned trees, making an average of 30.3 pounds per tree. Practically one fourth more fruit was thus obtained from the summer-pruned trees.

NOTE—The photographs illustrating this article were loaned by the Horticultural Department, University of Idaho.

Manuring Fruit-Trees

ON THE strong loams at the Geneva station clean tillage is the great factor in producing good crops of apples; of course, in combination with spraying. Applications of manures, of whatever kind, whether organic or chemical, have given no appreciable results and been so much money and effort wasted. But fruit-growers elsewhere whose trees are planted on sandy or gravelly loams report good results from the use of various forms of plant-foods. Mr. Bassett of Michigan (secretary of the Michigan Horticultural Society), who has sixty acres all in orchard, keeps seven dairy cows, feeds up the roughage on the place, buys hay and grain, and sells milk. He thus secures a good lot of manure, besides what he gets in the form of chemical fertilizers. He uses no stable manure in his pear-orchard, however; only bone and potash, and clean tillage. He gets good crops and has very little blight in the orchard. T. GREINER.

10 Cherry Trees for $1.95

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One Dyehouse, three Early Richmond, five Montmorency, one English Morello. The true value of these is $2.25 according to Green's "Direct to you" Prices, but others would charge you much more.

Here is another—a Plum—bargain: Six first-class Plum trees, medium size, worth $1.50; Green's "Direct to you" price, $1.00. The varieties are as follows—1 Burbank, 1 Abundance, 1 Niagara, 1 Bradshaw, 1 Lombard, 1 York State Prune—six in all.

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Be sure to state just what you are building or repairing and give exact dimensions.

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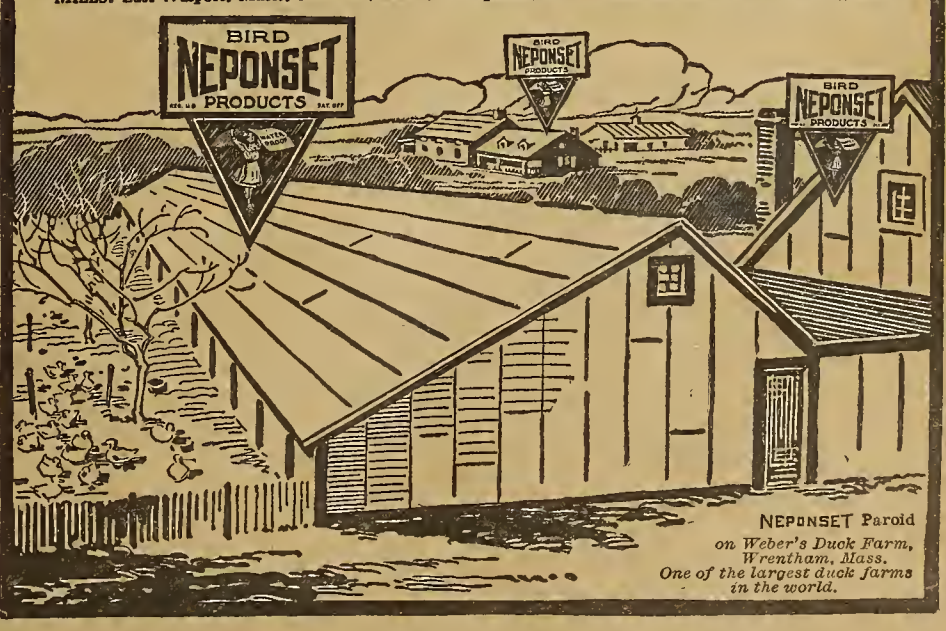

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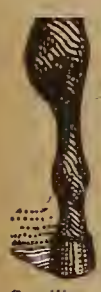

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

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will clean them off without laying the horse up. No blister, no hair gone. $2.00 per bottle, delivered. Book 8 D free. ABSORBINE, Jr., for mankind, $1.00. Removes painful Swellings, Enlarged Glands, Goitre, Wens, Bruises, Varicose Veins, Varicosities, Old Sores. Allays Pain. Book free.

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Farm Notes

Hints on Selecting Seed

TIME was when everybody saved their garden-seed, and this might be practised profitably with certain kinds even now. But on the whole I prefer to select from the catalogue of a reliable dealer. Catalogue buying is much more satisfactory than it was a quarter of a century ago, since no seedsman pretends to grow all of his seed. There are specialists in the production of almost every kind. It has been found that better seeds may be grown by specializing—growing one kind of seed in one section which is particularly well adapted to it.

To those who are not familiar with the various dealers I would suggest this almost infallible test as to reliability. If you find advertised such novelties as "strawberries from the seed in sixty days," "one-hundred-and-fifty-pound melons" and "rose-bushes that grow and bloom from seed in one season," put that catalogue away carefully—in the fire. There are plenty of legitimate novelties advertised every year, but common sense will tell you when the claims made in the catalogues are possible and when they are impossible. The man who advertises exaggerated novelties may carry good seeds in other lines; but you are safer in dealing with the houses of whose reputation and honesty you can be sure at all times.

There are certain extra large and extra early varieties which will do all that is claimed for them. But remember that there is a law of compensation in the plant world as well as among animals, whereby all the good qualities cannot be combined in one specimen. Many phenomenally early kinds are either shy bearers or of inferior quality, and this applies to fruit as well as vegetables. Reliable seed catalogues will usually put you right on these points.

Seeds That Do Best Near Home

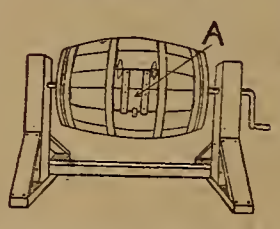
There is also a great deal in the proper acclimating of seed. Here in Missouri we believe that when we buy seed-corn from the North it will not be so large the first year, though much earlier than when home grown. Onions are best from seed grown farther north, while cabbage-seed should be grown as near as possible in the same latitude as it is planted. Tomato-seed are best when home grown, and saving tomato-seed is a simple process. Select the best specimens and when perfectly ripe pull them and lay away till they begin to decay, then squeeze out the seed and dry. However, excellent results have been had with Northern-grown seed.

Cabbage-seed are said to be best when kept over a year, as old seed produce better heads, or rather they are more sure to head; on the other hand, some other seeds, as celery, for instance, will not germinate with certainty if kept over another year. While it is best in most instances to use reasonably fresh seed, I have had good results from seed several years old, kept in a dry cool place. Corn will retain its vitality for a number of years, though new seed will generally germinate several days sooner than old seed. I have been successful with tomato-seed four years old, while bean, beet, cabbage, lettuce, squash and turnip are good at least three years, melons even five to seven. Parsnip and onion are satisfactory for only one year.

Of the seed that may be saved at home, beans, where one can keep the strain pure, are easily cared for, as are also peas, corn, pumpkin, squash and melon. No one saves beet, cabbage or turnip seed now, and most of our garden-seed may be bought for less than the time is worth that would be spent in saving them. One may have several kinds of one vegetable in the garden, and saving seed from any of these would probably result in a hybrid that would be inferior to any of the varieties it sprang from; thus another reason for buying new seed. Almost any seed will mature earlier if it has been grown in the North, while the opposite holds good with seed from the South.

H. F. GRINSTEAD.

Home-Made Fertilizer-Mixer



MIXING fertilizers is tedious and generally distasteful work when done in the ordinary way. Cut out of the side of a coal-oil barrel two or three staves a foot or so long. Make a door from these pieces of staves and fasten by hinges to the opening. Bore an inch hole through the center of each end of the barrel and put through an iron pipe long enough to leave arms a foot long at each end.

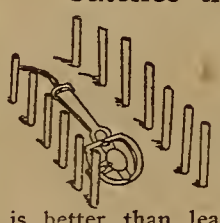
Set up two standards having holes bored through them to receive the pipe. Put on a crank and you have an easy and quick way of making fertilizers. J. H. HAYNES.

When a Pipe Leaks

IT OFTEN happens that a water-pipe gets to leaking at a time when we are rushed and when we have nothing at hand to put in its place. A cheap and efficient way of repairing such a leak is to mix up a batch of cement and put it all over and around the pipe, leaving it a little time to set before turning on the water. It costs but a few cents and makes the weak spot better than ever. We have thought of laying all of our farm water-pipes in cement. It seems as though one would have a permanent pipe, as the cement would keep the iron from rusting.

C. A. WAUGH.

Catches the Wise Ones



HERE is a way of musk-rat-trapping that works well. Place the trap in the slide, with the spring part uphill. Drive stakes on both sides of trap and cover it with newspaper which is better than leaves or grass. You can catch the wise ones in this manner. The sketch shows the trap before it is covered over.

D. CONGER.

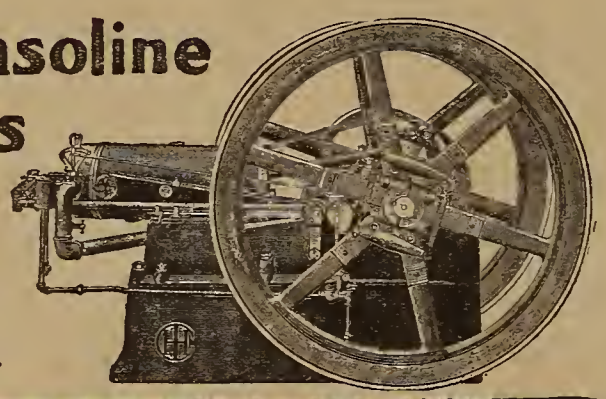
Agricultural News-Notes

Logan W. Page, director of the office of public roads of the United States Department of Agriculture, has been elected president of the association, and the permanent headquarters have been established in Washington, D. C.

The German potash deposits are practically inexhaustible. The value of the annual output is now thirty-five million dollars. Hanover is the central storage and shipping point of this product to the United States and Canada.

After six years' experimental work, Prof. B. C. Buffum, director of the Wyoming Plant and Seed Breeding Company in the Big Horn Valley, has originated an improved variety of emmer. It is a cross between the Russian speltz and hardy American wheat. It is very prolific and is likely to prove of great value as feed for stock. The average yield of a ten-acre field in 1910 was a little over sixty-nine bushels per acre. Professor Buffum has been an occasional contributor to FARM AND FIRESIDE.

An IHC Gasoline Engine Has Been Built Especially For You



No matter what kind of work you want your engine to do. Whether you need 1-H. P. or 45-H. P.—whether you want a vertical or horizontal engine, one that is portable, or of the stationary type—there is an I H C that will just meet your requirements. Also a line of Traction Engines in 12, 15, 20, 25 and 45-H. P. sizes—varied types.

The I H C line of Gasoline Engines has been developed to cover every farm power need. The men who are responsible for their design and construction know conditions on the farm, and they know, too, that no one type of engine could possibly be designed to do all farm work efficiently and economically. So they have built many.

The next time you are in town call on the I H C local dealer—explain the work you want your engine to do, whether operating cream separator, feed grinder, fanning mill, thresher, spreader, turning grind-stone, sawing wood, etc., and he'll show you the engine to do it—do it quickly—efficiently—and economically—just as others like it are doing for thousands of other farmers. He'll show you, too, the many advantages of I H C construction—points you ought to know about if you want the most satisfactory farm power you can buy.

If you prefer, write for the I H C Gasoline Engine catalogue. It gives all the facts. Address

International Harvester Company of America
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I H C Service Bureau

The purpose of this Bureau is to furnish farmers with information on better farming. If you have any worthy questions concerning soils, crops, pests, fertilizer, etc., write to the I H C Service Bureau, and learn what our experts and others have found out concerning those subjects.

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If you want to add not only to the appearance of your property but to its value, put up an attractive *and* durable

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thus combining artistic appearance, permanence and economy.

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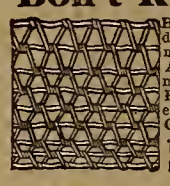

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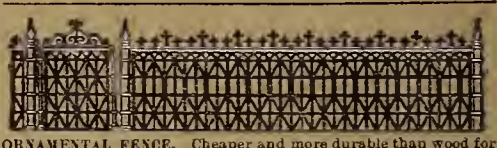

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Can Be Overcome in Cases

The influence of heredity cannot, of course, be successfully disputed, but it can be minimized or entirely overcome in some cases by correct food and drink. A Conn. lady says:

"For years while I was a coffee drinker I suffered from bilious attacks of great severity, from which I used to emerge as white as a ghost and very weak. Our family physician gave me various prescriptions for improving the digestion and stimulating the liver, which I tried faithfully but without perceptible result.

"He was acquainted with my family history for several generations back, and once when I visited him he said: 'If you have inherited one of those torpid livers you may always suffer more or less from its inaction. We can't dodge our inheritance, you know.'

"I was not so strong a believer in heredity as he was, however, and, beginning to think for myself, I concluded to stop drinking coffee, and see what effect that would have. I feared it would be a severe trial to give it up, but when I took Postum and had it well made, it completely filled my need for a hot beverage and I grew very fond of it.

"I have used Postum for three years, using no medicine. During all that time I have had absolutely none of the bilious attacks that I used to suffer from, and I have been entirely free from the pain and debilitating effects that used to result from them.

"The change is surely very great, and I am compelled to give Postum the exclusive credit for it." Name given by Postum Co., Battle Creek, Mich.

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Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

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They are stamped of best Bessemer Steel 5 to 12 feet long and 24 inches wide. They are made either in plain steel, painted on both sides, or heavily galvanized. They will not rust nor corrode. The interlocking feature covers the nails and provides for expansion or contraction.

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F. FOY • BOX 10 • DES MOINES, IOWA.

Poultry-Raising

Poultry Snap-Shots

Seventeen hens that weigh about six pounds each ought to have not less than five pounds of grain every day.

It will pay you to give your hens parched corn, good and warm, for the last meal at this season of the year. Makes them feel so good inside when they creep up on the roosts at bedtime.

I don't think much of any kind of ashes on the floor of the hen-house. The hens are so apt to get their feet wet and then walk in them. You know what comes next—or is apt to—sore feet. I would far rather have good earth or dust.

"She just about sits up nights with her hens. She works so hard for them!" But hold on now. She gets eggs, and you don't. That's the difference. She knows that the price of eggs is work and care. You would do well to learn that lesson yourself. Then you would gather in the dollars, too.

E. L. VINCENT.

More Incubator Hints

I HAVE had best results by setting the incubator in a large, well-ventilated room free from drafts. I would always advise against a sleeping-room. The too small room is objectionable because the temperature is apt to rise unduly at midday, owing to the heat of the machine. On this account, as well as the variation of outside temperatures, the machine should be set well out from the walls.

Run it as steadily as can be done consistently on common-sense principles, with not too slavish adherence to fussy rules. I have learned that it is best not to worry about trifling variations in temperature. If the machine is an ordinarily good one, and if the eggs are from vigorous, healthy stock, you will, without doubt, get a good hatch.

I run the machine empty for two or three days to become acquainted with its management and to learn about the correct size of flame. At the end of not less than thirty-six hours, when the machine is thoroughly warmed, I adjust the regulator so that it moves readily up or down as the temperature is raised or lowered. Then I carefully note the size of flame and try to alter it after that as seldom as possible. I find alterations risky, as the altered flame may be forgotten and do more damage than it would otherwise have done.

Instead, in case of cold snaps, I warm the room by some means—an oil-stove if necessary, or by opening doors into adjoining warm rooms; or the machine can sometimes be wrapped by blankets if the cold is not intense. Sometimes, for a cold night, a layer of newspapers or felt on the bottom of the egg-chamber will suffice.

One rule that should never be ignored is to keep the door of the egg-chamber closed after the eggs are once in, until they are up to one hundred and three degrees. This will require about two days. Don't try to hurry them, but don't hinder them by opening the door.

Airing and Testing

I find no bad effects follow opening the door later on during the hatch if it seems desirable; but, of course, not often or too long, especially if the room is cold. A little fresh air is sometimes needed to renew the overladen air of the egg-chamber. That it is often poisonous and insufficient for the little fellows is evidenced by their gasping and panting for breath.

The length of time for cooling the eggs depends on the coolness of the room; but it can be done at any time of day, preferably at the same time each day.

I like best to fill and care for the lamps in the morning, as then any change in the flame will be apt to be noticed soon and the temperature will be kept more even.

When I use my own eggs or eggs of known hatchability, I consider it a useless waste of time to test out infertile eggs on the seventh day. If eggs are really infertile they won't be in bad enough shape to injure the air of the egg-chamber, unless there is a large percentage of them, even at the end of twenty-one days. You who have boiled and fed such eggs to the chickens know this to be true.

But an egg that has had a germ in it which has started to develop and has then weakened and died is a different proposition. Such eggs, and such only, deserve the term "rotten." If there is any question in your mind as to the vigor of the layers of your eggs, it would be best to test on the twelfth day, as then dead germs can be easily detected and removed. If many such are found, then a second testing a few days later might detect a few more.

When you run up against this snag, don't lay it to the machine if it has apparently behaved well in other respects, but get after your egg-producers, and find out what is the matter. Few such eggs will be found when the hens are fed properly and have had plenty of exercise. Poor health, over-feeding with consequent excessive fatness, or inbreeding are frequent factors in the production of eggs of poor hatching percentage.

MRS. E. G. FEINT.

Exercising the Eggs

A GOOD deal is said about exercise for poultry, but did you ever think about exercising eggs during incubation? Perhaps not, but you have done it. By this I mean changing the position of the eggs, and moving them from one side of the tray to the other, at the time of turning and airing them.

I always make the first test on the eighth or ninth day, and from that time, up to about the nineteenth day, I exercise the eggs. This is done with a careful movement of the hand, and from the experience I have had with incubators I am satisfied that eggs handled in this manner will give a better hatch and the chickens will be decidedly stronger than when the eggs are simply turned over and returned at once to the egg-chamber. The length of time of airing and exercising is increased as the hatch goes on.

I find no advantage in keeping eggs very close in the incubator, for they need plenty of fresh air. If you are not having good hatches or the chicks seem puny and weak, try exercising the eggs more and give them a good airing each time they are turned. The length of time to leave the eggs out, of course, depends upon the outside temperature, but after eggs have been aired freely for a week or so they will stand quite a low temperature. Through an oversight I once left two trays outside the incubator from seven o'clock in the morning until two in the afternoon. This was during the cool weather in April, too, yet I got better than a fifty per cent. hatch.

V. M. COUCH.

Another Sorehead Cure

MR. W. A. MARSH, of Bellingham, Washington, sends the following useful hint. His idea is that it is better to dodge sorehead than to doctor it.

I noticed in your poultry department (December 25th) a remedy for sorehead that is a good one, for I have used it. I lived in Florida fifteen years and raised a good many chickens while there. In my experimenting I found a still better remedy than the ointment referred to.

Here it is: Hatch your chickens in December and January. Fowls of nine months or older rarely have the disease, or if they do, only slightly, it being confined to chicks or fowls a few months old. The disease attacks in the early fall, very rarely at any other time of year. After I commenced hatching my chicks in winter, I never lost a chick by sorehead, and followed that plan for several years.

It is to be noted that Mr. Marsh's experience has been in the South and later on the Pacific Coast. The raising of mid-winter chicks, as recommended, is difficult and often inadvisable in the colder North. But then, sorehead is a much less serious poultry ill in the North than in the South.

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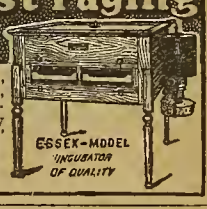
Poultry the Best Paying Branch of Farming

The 1911 catalog by Robert H. Essex, poultry and incubator expert, will start you right. Improved incubators and brooders. Read "Why Some Succeed Where others Fail."



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140 EGG INCUBATOR and 140 CHICK BROODER

The incubator is California Redwood, covered with asbestos and galvanized iron; has triple walls, copper tank; nursery; egg tester, thermometer, ready to use. **Both For $10**

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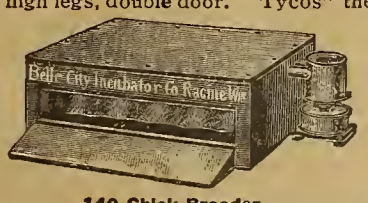
I want to send you my 1911 Booklet. Just send name and address on a postal—I'll mail you my latest edition of "Hatching Facts"—the most unique—most convincing—right-to-the-point piece of literature ever published on Incubators and Brooders and Poultry Raising for Profit. It gives you just what you want—quick—tells you how to start right at least expense. My Belle City Incubator won the World's Championship last season. "Hatching Facts" tells you all about it—tells you of hundreds of other wonderful hatches. Write for the Booklet today—or if in a hurry, order direct from this ad—hundreds of others do. I'll send book, too. Anyway, read my remarkable offer below. J. V. ROHAN, President Belle City Incubator Company.

$7.55 Buys the Best 140-Egg Incubator Ever Made

$4.85 Buys the Best Brooder

Both Incubator and Brooder, Ordered Together, Cost But $11.50—Freight Prepaid (East of Rockies)

Our Belle City Incubator will hatch more chicks, under the same conditions, than any other incubator, else your money will be refunded. This I guarantee. It has double walls and dead-air space all over, copper tank and boiler, hot water heat. The best self-regulator, deep nursery, strong egg tray, high legs, double door. "Tycos" thermometer, egg tester and safety lamp included.



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J. V. ROHAN, Pres.
Belle City Incubator Co., Box 100, Racine, Wis.

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WISCONSIN INCUBATOR CO., Box 88, Racine, Wis.

Quickest Poultry Profits On Smallest Investment

Here is your chance at large, sure poultry profits. *Quick results guaranteed*—proved on most liberal FREE TRIAL. Greatest bargains ever offered because highest quality made. Let us prove it before you risk a cent on any machine. Start *right* and at *our* risk.

$7.50 Buys the Genuine 100-Egg Unito Incubator 100-Chick Brooder $3.50 Only $10 for Both Together

That beats them all by $5.00 to $7.00. You'll say so when you know the machines and see results. Self-regulating—self-ventilating—finest heating system in both. Send for illustrated catalogue showing construction and giving full details of our plan for saving you money by selling only goods of guaranteed quality direct to users from 16 big factories. Write for offer quick.

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Tells how to succeed with poultry on the ordinary farm. How to make a first-class brooder out of an old piano box. What breeds lay best. Plans for poultry houses, how to feed, breed, etc. Describes

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You will be surprised at the valuable information it contains. It's free. Write a postal for a copy today.
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64 VARIETIES POULTRY, HARES, EGGS and STOCK for sale reasonable. Catalogue and show record free. H. F. ROTH, SOUDERTON, PA.

Poultry-Raising

The Poultry Show in the City

WHAT a rivalry of noise is here! The "bonk-honk" of automobiles jostling about the Grand Central Station, New York City, is still in my ears, for I had to pick my perilous way among them to reach the poultry show.

And now as I enter the exhibition rooms a deafening chorus of trumpetings of geese and crowings from many breeds and sizes of cocks, seems trying to outdo the uproar I have just left in the street below. I almost dodge aside involuntarily, fearing a whole column of rushing motor-cars, of smaller size, is about to mow me down if I loiter here an instant!

What ails the poor birds? Are they protesting against confinement in these narrow cages or do they think the loudest honkers and crowers will win the blue ribbons? Perhaps they are vexed with these glaring arc-lights that hang above them like mock white suns, refusing to rise or set, no matter how vociferously the straining chanticleers bugle at them.

In this first series of box pens see these plump silver-penciled Plymouth Rocks. Well named, are they not?—with each separate feather so delicately adorned with marbled gray and white. Skilful indeed would the silver crayon of an artist be that could copy the intricate lines of such plumage. The feather collars about the hens' necks suggest a lady's furs, while the cock struts magnificently in what is almost a cape of plumes, slipping loosely up and down as he pecks his food or promenades with lordly swaying of his head. His body plumage is rich in contrasts of black and white like a pboto-negative of brilliant definition.

In neighboring boxes are Buff and Barred Plymouth Rocks, some of them veritable giants, and heavens! what lungs! One of the russet champions suddenly yells his challenge into my defenseless left ear, with his beak gaping like a newsboy's mouth when he shouts his "Extra!" above the roar of tbe city streets. I wonder vaguely if I shall escape from the show witb more than tbe wreck of my hearing apparatus.

Studies in Black and White

Tbe Black Orpingtons are the Ethiopian monarchs iu the assembly, the cocks large as turkeys and wearing their short tail-feathers defiantly erect. Was it from such an audacious breed that the phrase arose, "cock-sure?" At any rate I see something in these watchful eyes that warns me to keep a safe distance from the wire netting; a peck from one of these powerful beaks would be too much like the stroke of a leopard's claws from between the bars of a menagerie cage!

Near by in a much roomier pen all to berself is .exhibited the famous hen, "Our Lady of the Snows." Sbe is alleged to be the most perfect White Orpington living, and surely a nobler "queen of the barn-yard" could not be found. Of great bulk, she is yet so perfectly proportioned as to give an effect of stately grace. The billowing masses of her spotless plumage clothe her as clinging snow enfolds the vigorous form of an evergreen in the winter woods, while the vivid scarlet of ber comb flashes above her milk-white brow like a ruby coronet.

As sbe walks serenely about her inclosure the straw rustles crisply beneath her heavy tread, with perhaps as gratifying effect to her ears as the "frou-frou" of silken skirts to a society belle. I never thought a mere hen could be so superb a creature. She takes equal rank witb a prize sheep, milch-cow or brood mare. One usually thinks of a hen as rushing across the patb of a horse or motor-car, with panic fear expressed in sprawling legs and flapping wings, or else perpetually scratching and pecking for food as though on the verge of starvation. But I could as little imagine this majestic fowl "hustling," as I could tbe Queen of Spain running after a trolley-car through tbe streets of Madrid. And when the feathered empress dines, she must surely be served from silver dishes and a crystal cup.

Judge and Malefactor

The sleek jet plumage of the Black Wyandottes in tbe next series of cages is superbly set off by the cocks' arched and drooping tail-feathers that reflect a dark greenish luster like burnished bronze. These are the black-robed judges among the fowls, who seem in the mood to issue a gallinaceous injunction, compelling the spectators to cbange places with them and be cooped, labeled and stared at themselves for a while, till they see how it feels to help make a "show."

But now what breed of desperadoes among fowls bave we here? "Houdans" they are labeled; "ruffians" would be more appropriate, judging from outward appearances. Their visages are entirely hidden behind grotesque mops or carpet-sweeper brushes of head and chin feathers, sooty black mottled with white. They might be barn-yard burglars masked for a raid, and the cocks have a toucb of tbe Satanic added to their aspect, in the fearsome scarlet horn that protrudes instead of a comb above the villainous black brush of feathers.

It is a positive relief to turn from such a neighborhood, where iniquitous plots seem more likely to get hatched than eggs, and look into the spacious cage of the white doves. This throng of slender, snowy forms gives an effect of living alabaster, as they huddle their downy sides close to one anotber and nervously flutter their shining wings. It is as if a marble statue of exquisite shapeliness had suddenly been endowed with animation, and were waking to the joy of life. A rosy hue is added to the lustrous whiteness by the delicate pink coloring of the birds' bills, rims of eyes and dainty feet. The constant cooing suggests tbe murmur of a great beehive, and the agitation of the many wings wafts a gentle wind from the cage like a summer breeze.

The assembly of ducks in the next pen might be trying to caricature the doves, waddling about on turned-in web feet, comically wagging their stumpy tail-feathers and making sport of the soft cooing of their neigbbors with quackings that could easily be taken for explosive chuckles, gibes and giggles.

And the huge geese next door! These are the true and original "honkers," on whose patent the automobiles sbamelessly infringe witb their blatant borns. As if to remove any lingering doubt of this, one of the caged trumpeters suddenly clamors so raucously at my elbow that I almost leap for the curb-stone's safety, as though I were threatened by a Juggernaut motor-truck in the Broadway traffic.

Nursing Secret Sorrows

Then the disconsolate turkeys!—does it seem to you to be the grossly misnamed "Thanksgiving time" all the year around that you look from your pens with such foreboding? Some poet with a facile imagination ought to write a Thanksgiving Ode from the turkey's point of view. Or perhaps someone made the birds gloomy by letting them look at themselves in a mirror! Has the attempt ever been made to describe the appalling homeliness of a "gobbler's" visage?—with his naked gray head, misshapen, pendulous nose, redder than raw steak, and tbe fleshy mass of wattles below of the same hue! It would discourage the most cheerful of the tribe from ever again spreading the pompous fan of his tail, to know what a monstrous countenance he was setting off.

Wbat delight Nature seems to take in the contrasts she can display among her feathered folk! As I wondered at this when turning from the sinister black Houdans to the shining purity of the doves, so I must again as I compare the turkeys' facial ugliness with the rare beauty of form and color of this silver pheasant, in the last cage at the exhibition's exit door. The mysterious Artist behind the veil of visible creation indeed lavished delicate fancy upon the shaping and adorning of such a bird as this! The head is surmounted by a black tuft, the cheeks are cardinal red; the white feathers of the finely poised, tapering body are penciled witb black, but the very long tail-feathers, the most exquisite ornament of the bird, spread forth in spotless white, like a floating scarf of filmy lace or the snowy spray of a fairy waterfall; the haunches are robed in black plumage like clinging velvet and the legs and feet add a rich tone of cherry red.

So the visitor goes out again from the poultry show into the dark and crowded city streets, with the healthy odors of the bird bodies still in his nostrils and tbe array of their manifold forms filling his thoughts with wonder of tbe creative purpose.

ELIOT WHITE.

A Shower-Bath of Powder

LICE and egg production do not go well together. Here is our system of lice eradication.

We train all of our hens to perch for the night in regular quarters in our winter poultry-house. In this manner we have them under our control. Our perches are all hung eighteen inches from tbe floor on a level. We take a wooden hoop from a barrel and cover it, like a dipping seine for minnows, with a piece of coarse gunny sacking. To this hoop is attached a long, light pole.

Into this "duster" we place a quantity of good insect powder and, with lighted lantern, go among our flock at night, holding the duster over them wbile we tap the end of the pole with a mallet, sifting the powder quickly upon the flock.

As soon as the bens feel the powder falling upon their backs they ruffle up tbeir feathers, letting the dust penetrate to the skin and away goes Mr. Louse. We have used this arrangement profitably for several years and are especially urgent in its use during tbe hatching season.

GEO. W. BROWN.

Forethought in Hatching-Time

DON'T wait until the day you are going to start your incubator to look it over and make it ready.

Don't let the last moment come before ordering repairs. Decide definitely upon the style and kind of brooder you want and then get it—not something "just as good," that you bave to accept because you are in a hurry.

Study the different catalogues of incubators before buying. It will pay you generously.

Decide beforehand whether you want two one-bundred-egg machines or one of two-hundred-and-forty-egg capacity. Realize that it is much easier and safer, unless you keep hundreds of breeders, to spare one bundred eggs at a time than to save two hundred and forty, especially if you are selling eggs and do not want to disappoint steady customers.

Give your machine a fair trial before going back on it. Be sure whetber the fault is yours or tbe machine's. You can do best by sticking to one make of incubators, once you are satisfied with it—just as you can do best by sticking to one breed of fowls.

MRS. J. B. ROGERSON.

IT'S FOOD

That Restores and Makes Health Possible

There are stomach specialists as well as eye and ear and other specialists.

One of these told a young lady, of New Brunswick, N. J., to quit medicines and eat Grape-Nuts. She says:

"For about 12 months I suffered severely with gastritis. I was unable to retain much of anything on my stomach, and consequently was compelled to give up my occupation.

"I took quantities of medicine, and had an idea I was dieting, but I continued to suffer, and soon lost 15 pounds in weight. I was depressed in spirits and lost interest in everything generally. My mind was so affected that it was impossible to become interested in even the lightest reading matter.

"After suffering for months I decided to go to a stomach specialist. He put me on Grape-Nuts and my health began to improve immediately. It was the keynote of a new life.

"I found that I had been eating too much starchy food whicb I did not digest, and that the cereals which I had tried had been too heavy. I soon proved that it is not the quantity of food that one eats, but the quality.

"In a few weeks I was able to go back to my old business of doing clerical work. I have continued to eat Grape-Nuts for both the morning and evening meal. I wake in the morning with a clear mind and feel rested. I regained my lost weight in a short time. I am well and happy again and owe it to Grape-Nuts." Name given by Postum Co., Battle Creek, Mich.

Read "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.

Fifteen Years' Service Without Painting—Or a New Roof—That is Our Guarantee to You—

and the guarantee is stamped right on the roofing itself with the year you buy it.

IT will last you much longer than that, **but for 15 years we are responsible.** Think of that—lay your roof and forget it for 15 years. No expense—no repairing—no renewing.

We don't know the wearing possibilities of our own roofing. Our 25-year-old roofs are as serviceable and look as good now as roofing laid five years ago. We make our guarantee 15 years to be safe, but we **know** it is **good for twenty-five years.**

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Galvanized Metal Roofing

is the only metal roofing made which is so scientifically galvanized that it can be guaranteed against rust.

Only the toughest, most pliable, open-hearth stock is ever used. This metal is peculiarly porous and long-fibered, so that when it is put into the galvanizing pots the liquid spelter **does not veneer but penetrates this fiber and amalgamates with the metal base,** thus protecting it forever.

Dickelman Extra is easily laid. **It is already turned and adjusted for end locks.** All you have to do is to place together, and you have a perfect double seam.

Try one of our samples, test it and then test some ordinary galvanized roofing. Buy the one which does not flake or crack. **It will be Dickelman's.** Write today for

Free Samples and Book on Roofing

The book will show you how you can save money on your roofing, how to lay roofing easily, how to avoid repair bills. **Your dealer** will know about **Dickelman's.** Ask him. But let us send you this free book and sample. Write today.

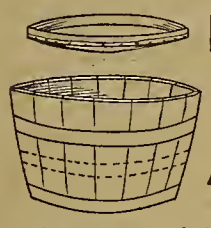
THE DICKELMAN MFG. CO.
72 Gormley St., Forest, Ohio

Poultry-Raising

Fireless Brooder Plans

WE PUBLISH herewith the best descriptions of fireless brooders sent us in response to our request in the November 25th issue. There is not much possibility of variety in the case of the fireless brooder, as the general plan of construction is in all cases the same—a cloth cover is supplied to retain the bodily heat of the chicks, which cover often takes the form of a substitute for the brooding hen.

Mr. Lewis E. Leigh, Middlesex County, Connecticut, gives his experience as follows:



BI have used hens for hatching and brooding chickens and for brooding after hatching in incubators and have used warm lamp-heated brooders as well. In the light of that experience I have no use for a hen except to lay eggs, and for my purposes prefer the simple fireless brooders here described.

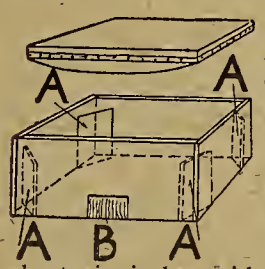
To make them I saw a flour barrel in two in the center, which makes two tub-shaped cold-air brooders, the heads of the barrel being left in. Inside one tub I nail a hoop (shown dotted at A) about six inches from the bottom, for a loose hoop (shown at top of sketch, B) to rest on. Cover the loose hoop with woolen cloth, letting it bag down in the center about two inches.

This will hold sixty to seventy chicks right from the incubator. You can set it anywhere in a moment. Keep some thick paper in the bottom and it is no trouble to clean it. After feeding and watering, put the chicks in the other tub and set them out in the sun anywhere out of the wind. At night put one-inch wire netting over top of the tub to keep out rats and other marauders. Don't smother the chicks with anything more than netting. They need plenty of air, no matter how cold.

In about ten days put the chicks in square hen-coops with a slanting—not peaked—roof. Mine are twenty-four inches square at the base, twenty-four inches high in front and twenty inches high at the back, with loose top and bottom for convenience in cleaning. The roof projects three inches beyond sides all around, and lifts off. Nail a bag—a grain bag is good—to the roof inside to take the place of the old hen.

Give these chicks a run of fifty feet of one-inch chick wire two feet wide. Feed the usual chick feeds two or three times a day from the start. I keep bran before them in a trough all the time, and when they are three weeks old I mix a little meat with it. Give them plenty of fresh water, green stuff cut fine and ashes to scratch in, keep them clean by putting fresh paper in bottom of coop twice a day, and watch them grow. My neighbors used to stop and look over the fence at my chicks, running around like a lot of legged sponges in the coldest storms last spring, and prophesy an early death for the whole of them; but at this writing they are alive, of large size and laying when eggs are forty-five cents at the door.

Mrs. F. M. Clay, Faribault County, Minnesota, uses another type of fireless brooder. Here is her description of it.



In my poultry work I now use fireless brooders altogether, making them myself at almost no expense and with only a few minutes' work.

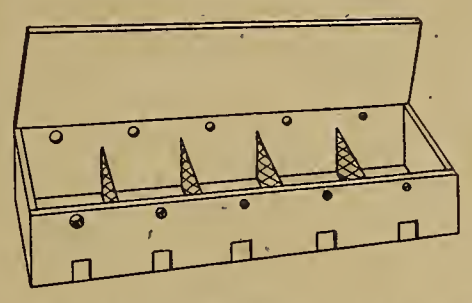
Take a box about eighteen inches square without a cover and line the bottom and sides up about six inches with tarred roofing-paper. Now nail cleats in each corner or, better, thin boards (AAAA) about five inches square across each corner. Then fill corners with chaff. Also, cover bottom two or three inches deep with chaff. If the weather is very cold heap up the chaff at the corners clear to the top of the corner cleats, leaving just a place in the center hollowed out and shaped like a nest and large enough to hold your chicks—about thirty I like to put together. I get clean chaff and there is no trouble from dust. The chaff must be changed frequently, but these light boxes are easily dumped, cleaned and aired.

Now you have a good nest for your chicks and you want a hen or a substitute for one, to cover them. Make a lath frame that will just slip inside the box and rest on corner pieces. Cover this loosely with a piece of clean flour-sack. (Frame is shown at top of sketch.) Tack a piece of flannel curtain cut in one-inch strips over the door (B) for your chicks to pass through and to help protect them from the cold. With flour-sacks or other thin muslin make a cushion filled with hens' feathers—not too full, but so it will be loose and fluffy. Lay this on the cloth-covered frame, and when you put your chicks in their nest at night be sure that the cushion comes down so it rests on their backs like a mother-hen. Now set the whole brooder in a small brood-coop or other sheltered place and when the chicks have been there a half hour or less put your hand carefully through their small doorway and feel how snug and warm they are. Of course, the thickness of the cushion will depend on weather, size of chicks, etc., but as flour-sacks and hen feathers are plenty you can have cushions of various thicknesses as needed.

Be sure the cushion rests on the backs of the chicks. Then there will be no chance for them to crowd or pile up, and then think how would you like to go to bed on a cold night and have the bed-clothes suspended over you instead of resting down snugly on your body? This is where many make their mistake in brooding chicks.

I raised over two hundred chicks last season and have lost none from sickness or from the fault of brooding. Each brooder is set in a brood-coop covered with roofing-paper with a light of glass for window and muslin-covered door extending across front. These coops are about two and one half by three feet. If the weather is very cold, it might be well to bank the outside of brooder with chaff, but I have never found it necessary as I never raise chicks in winter.

Mr. C. W. Beyer, Chesterfield County, Virginia, has a plan for dividing the brooder space into compartments so the chicks will not pile up—an idea that should be applicable to heated brooders, also. Here is Mr. Beyer's letter:

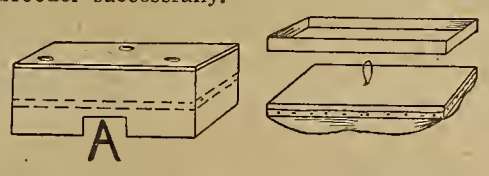


The illustration shows an original home-made fireless brooder, five feet long, two feet wide and ten inches high. The cover is fastened with hinges. It is divided into five sections by inch-mesh poultry-netting six inches wide. Part of the chicks can be put in each section, and they are thus prevented from crowding together and crushing or smothering the weaker ones, while at the same time the heat from the entire flock is distributed throughout the brooder.

Make a frame of light wood to fit inside and cover with old flannel or close-woven burlap and lay it in, letting it rest on the netting partitions. Bore holes for ventilation between the frame and the top of brooder. The cloth will then hold body heat without danger of suffocating the chicks. There is no place for lice to harbor and the brooder should be opened, aired and sunned daily.

If used for the chicks during the day, glass should be put in the cover. Not more than fifteen chicks should be in one section. It is but a small matter to see that they are properly distributed. In colder sections a double wall may be used with a two-inch air space between, the holes for ventilation being in the inner wall at one side and the outer wall at the other.

Mr. William P. Baker, Middlesex County, Massachusetts, uses another type of fireless brooder successfully.



Here is a fireless brooder I make and use myself. Common sense and sound judgment must be used with this, as in every other corner of a poultry plant, and I do not guarantee that anyone can raise every live chick put in this brooder, but I do claim it to do as well or better than any other I ever used.

Get or make a box about twenty-six by fourteen inches by ten inches deep. Wooden cracker-boxes come just about a good size. Put a cleat of lath on the inside of each end five inches from the bottom, then make a frame of laths to fit inside box and rest on end cleats. Set the laths of frame edgeways, not flat. Over one side of this frame stretch cotton cloth or burlap and tack it tight, and cover the other side or bottom of frame with same material only have it sag to within two inches of bottom of brooder, and catch the center up with a string. Now put on your cover, which should be hinged, and bore three holes in it about the size of a quarter to admit fresh air. Of course, have a small opening for chicks to pop in and out, put plenty of chaff thick on the floor of brooder and your job is done. It won't cost over fifty cents complete and will take care of twenty-five chicks. The cloth screen can be raised higher after the second week.

Pure-Breds Pay

THERE is much prejudice against not only the show-bird but the pure-bred fowl in general, on account of the idea that it is bred for feathers and shape to the exclusion of egg production. This is a great mistake. The breeders of pure-breds are constantly trying to improve egg production and it has been shown beyond doubt, time and time again, that the pure-bred will outlay the mongrel. This is true not only of the Mediterranean class, but of the general-purpose breeds as well. In fact, in this part of Texas, it is doubtful whether the general-purpose fowl will average one pound heavier than the Mediterranean. The extra size does not offset the absence of fixed type and color.

A few pure-bred fowls on the farm attract more attention than a large flock of mongrels, and one can get larger prices, ranging in this region from one dollar and fifty cents to three dollars per setting and a like sum for birds. These prices are only for utility pure-bred stock, show stock being still higher in price, while the cost of production of the pure-bred and mongrel is the same.

C. B. BRYSON.

If you forget everything else, never forget to keep oyster shells a-plenty where your birds can get them when they want them, which will be every few minutes all day.

Says a New York poultryman: "Fifty hens ought to have three or four acres of land to range over. Of course, they will live on less, but they will do better for the larger freedom."

When you get too tired to clean out the houses every few days, the bugs and pests and things will soon make you tired fighting them.

Take one hundred laying hens, care for and feed them the same as you would a horse or cow worth as much as the hens, and the results may be an eye-opener as to the relative profits in the two lines.

Stop and think before you begin to use any kind of an egg-producer. Nature made your hens and made them right. You can't improve on the job. Just furnish your hens plenty of good, clean feed, in a well-chosen variety and you have given them the best egg-producer known to man.

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Genasco is made of Trinidad Lake asphalt—the natural and only perfect waterproofer.

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Ask your dealer for Genasco, and be sure to look for the trademark. Mineral or smooth surface. A written guarantee, if you want it. Write for samples and the Good Roof Guide Book.

THE BARBER ASPHALT PAVING COMPANY
Largest producers of asphalt, and largest manufacturers of Ready-roofing in the world.
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Asphalt-saturated Wool Felt
Trinidad Lake Asphalt
Asphalt-saturated Wool Felt

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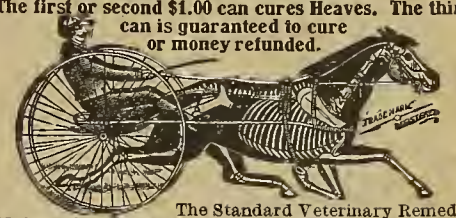
The first or second $1.00 can cures Heaves. The third can is guaranteed to cure or money refunded.



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Makes the Horse Strong and Willing to Work.
CURES HEAVES BY CORRECTING THE CAUSE which is Indigestion. Send for booklet "Horse Troubles." Explains fully about the Wind, Throat, Stomach and Blood. Newton's is safe for colt, adult or mare in foal
A GRAND CONDITIONER AND WORM EXPELLER
$1.00 a can at dealers, or express prepaid
THE NEWTON REMEDY CO., Toledo, Ohio

Fences cost almost nothing compared with results obtained

A farm of 160 acres fenced into five fields, as shown in the diagram, takes 1,040 rods of fence. At fairly reasonable prices the year's yield from this farm is:

Wheat	$600.00
Oats	157.50
Hogs	400.00
Cattle	1000.00
Market value of year's crop	$2157.50
Cost of complete fence	**$350**

Or, in ten years, value of yield $21,575—and the fence still good

What did the fence do? Besides enclosing the fields it facilitated crop rotations and the feeding of stock. Without the fence the same profit could not have been realized from the stock.

Fences cost almost nothing compared with results obtained.

American fence is made better than ever. It is a thoroughly galvanized square mesh fence of weight, strength and durability. Large wires are used and the whole fabric is woven together with the American hinged joint (patented)—the most substantial and flexible union possible. Both wires are positively locked and firmly held against side slip and yet are free to act like a hinge in yielding to pressure, returning quickly to place without bending or injuring the metal.

Dealers Everywhere Stocks of American Fence are carried in every place where farm supplies are sold. The Fence is shipped to these points in carload lots, thereby securing the cheapest transportation, and the saving in freight thus made enables it to be sold at the lowest prices. Look for the American Fence dealer and get the substantial advantages he is enabled to offer. He is there to serve the purchaser in person, offer the variety of selection and save the buyer money in many ways.

FRANK BAACKES, Vice President and General Sales Agent
American Steel & Wire Company
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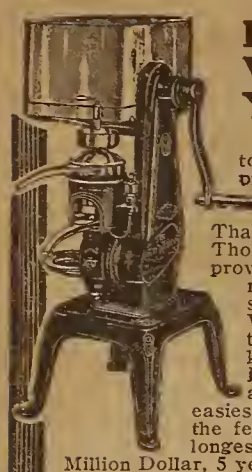
Send for copy of "American Fence News," profusely illustrated, devoted to the interests of farmers and showing how fence may be employed to enhance the earning power of a farm. Furnished free upon application



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Positively only perfect stock shipped by us. See our guarantee against Cholera. Write today for illustrated circular and price list showing some of our famous herd.

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Farm Notes

No Loafing Acres or Minutes

THIS is an experience-talk. The writer, on his farm in western New York, has worked out a system of crop growing that is not only proving profitable in connection with producing market milk, but which is decidedly successful in maintaining soil fertility and, besides, in keeping men and equipment steadily employed at an even pace without slack times or overwhelming rush seasons. I believe this experience puts a point to some rather noteworthy agricultural principles.

We raise clover, corn, potatoes and wheat in our crop rotation. The hay crop is perhaps the most important, both from the feeding and fertility standpoint. Having the peculiar power of obtaining its nitrogen from the inexhaustible supply in the atmosphere, clover not only supplies that element to the soil, but affords an abundance of nutritious hay and forage for the farm stock. We raise a few acres of mixed hay for the farm horses and to sell in case we have a surplus of roughage after wintering the stock, but clover is our main reliance in making up winter rations for our cattle and sheep.

Our corn I consider a scavenger crop, capable of making the most economical use of the stable manure and wastes resulting from stock-feeding and plowing down stubble and sod land. Properly managed, it can be grown and harvested for less money than any other crop that will afford an equal amount of palatable grain and roughage. Corn has become an even more profitable crop on the dairy farm since the advent of the silo. Both because it is the best crop to plant on a manured sod and because it leaves the ground in such fine condition for potatoes, corn is a most valuable rotation crop.

Potatoes Doubly Beneficial

Potatoes are our money crop. The profits from our dairy cattle were very small when we depended upon buying all of our grain foods and had no funds outside of the milk-checks to meet the feed-bills. Obviously when we depend upon purchased grain foods as a source of fertility we must plan to take care of this fertility by growing a money crop that will be stimulated by the increased soil richness, even if it does not use that richness up. We chose potatoes because they fit nicely into our crop rotation and enable us to develop more plant-food by tillage. No man who has handled a crop of potatoes and given them clean cultivation has failed to note the benefit accruing to subsequent small-grain crops that follow in the rotation. The soil that is given intense tillage is teeming with bacterial life, a condition brought about by opening up the pores and letting in the air which the soil bacteria need in the business of making insoluble plant-food available for the growing crops.

By applying the bulk of the fertilizer to the potato-field we raise a maximum crop and have the field in ideal condition for winter wheat, with which we seed our clover or mixed hay. Many men will object to applying the bulk of the fertilizer used in the crop rotation to the potato crop, but when we figure the cost of growing this crop and the resulting profits, it is easy to see that it pays to keep the crop supplied with an abundance of plant-food from start to finish. There is practically no waste in applying large amounts of fertilizer to potato-ground, for what is not utilized by that crop is taken by the succeeding crops of wheat and grass.

Wheat After Potatoes

We raise wheat in preference to other small grain crops because it is a conserver of fertility and serves the purpose of a cover crop. It is safe to seed clover and mixed grass seed with, and it makes good yields when sown on our potato-fields as soon as that crop is harvested in the fall. This is not because the potato crop adds any fertility to the land. It takes fertility from it. But potatoes demand good tillage, and tillage permits the soil bacteria to make available much insoluble plant-food to the advantage of the wheat crop. Furthermore, the cultivation of the potato field conserves a large amount of soil moisture which is so essential in securing an even stand of wheat and a catch of clover and grass seed. Using the potato-digger is equal to plowing the field, and after harrowing as soon as the crop is harvested an ideal seed-bed is ready for the wheat crop.

This rotation of crops in connection with milk production and a small flock of mutton sheep distributes the labor of the men and teams regularly over the year, reducing the acreage cost of tillage and simplifying the question of hired labor. In this way the help is regular and contented. It is a fundamental principle of all industries that the equipment must be kept in constant use. Idle equipment, buildings and capital bring in no income, and are subject to constant expense. On the farm where good dairy cows, farm teams and trained men are kept this rule operates with special force. The farm that is producing something every month in the year is being operated on a sound, money-making basis.

No Slack and Few Rush Seasons

In the rotation above outlined, part of the farm being in each of the crops every year, of course, there are no slack seasons. Each crop so succeeds the other that planting begins about the first week in May and continues to the middle of June, when tillage begins immediately after or before planting is over. Clover-hay is ready to cut by the last week in June, then comes mixed hay, wheat-harvest, early-potato digging and hauling to market, silo-filling, apple-picking, and after the first killing frost potato-digging and wheat-seeding. The dairy work, manuring, plowing, crop-marketing and hauling wood keep up activities until spring's work arrives. This even distribution of fertility and labor is an economic aid in reducing the cost of producing crops. Where there is an equal distribution of fertility and labor less capital is required to conduct the farm, and less horse-power, machinery and equipment are needed.

Not only daily experience, but the whole history of agriculture proves that crop-growing is on a safer basis when the bulk of the field crops are fed to live stock on the farm and the resulting manure applied to the fields with as little loss as possible. Pursuing this course and buying fertilizers to encourage the growth of highly organized crops enables us to expand our farm operations.

We have been farming along too narrow lines. I firmly believe, and I can say from experience and a fair amount of observation in various agricultural sections, that the time has arrived when more labor, capital, farm machinery, animal-foods and plant-foods should be utilized on our farms, in order that we may keep pace with the other industrial enterprises of the day.

M. MILTON KELLY.

New Ventilation for Old Barns

AN INTERESTING question in barn ventilation is raised by a Pennsylvania reader. His ten-by-sixteen barn always has the walls damp or crusted with frost. There is a ventilator in peak of roof. Walls are double boarded with building-paper between, and floor is double.

The reason that moisture condenses on the inside of this barn is evidently because of lack of circulation of air. The stable is evidently very tightly built and there is not enough change of air to carry off the moisture from the inside. The ventilator does not wholly solve this difficulty.

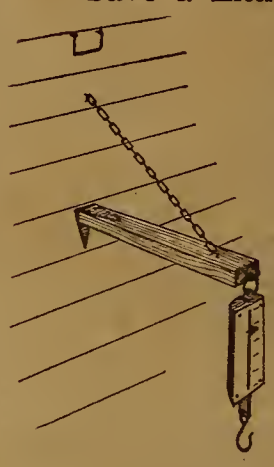
The remedy is to provide several openings for air to enter. If a barn is built with upright studding, an easy way to admit air is to board up spaces between two of the inside joists for several feet from the bottom, making an air-tight flue. Then cut an opening near the bottom on the outside, about two inches wide and ten or twelve inches long. This will allow the cold air to come into this flue, where it will be slightly warmed by contact with the boards on the inside, thus causing an upward current and bringing the air out of the top of the flue and into the stable. A shutter can be arranged to close this flue if desired. There should be two or three flues on each side of the barn. These, together with a ventilator in the roof—an ordinary cupola, for instance—will probably give enough circulation of air. This is a rough form of the well-known "King system" of ventilation.

If the construction of the stable will not permit this method of admitting air, hinge the windows at the bottom so they swing in at the top and then fasten boards at the sides so that the air will enter the stable over the top of the sash. This will prevent strong drafts and the window can be opened as much as desired in accordance with the weather.

Muslin windows give satisfaction in some localities where the temperature is not too cold. This permits an interchange of air without causing drafts or serious loss of heat.

W. A. STOCKING, JR.

Save a Little Muscle



IT IS often very inconvenient to hold spring balances, especially when one does the weighing alone and the weight is heavy, as is the case with a full milk-pail. To obviate this trouble fasten a stout strip of wood like a fence picket to the wall or any convenient place of support, using a hinge so it can be let down on a level.

Support this by a chain or rope fastened to wall and to picket. A notch cut in the end of the picket will keep the scales from slipping.

When not in use hang it up close against the wall out of the way. J. H. HAYNES.

Unsound Wool

MANUFACTURERS will not buy wool which is not wholly sound. Again and again have I seen buyers take a sample of the fleece from the bale and, upon finding that the threads would uniformly tear at a certain place, reject the entire supply or else take it only at a great reduction in price.

There is one great cause for the production of weak wool fiber. That is a change of food and treatment. A flock of sheep may be in the best of condition when sold, but if the new owner does not feed and shelter it properly, the new wool that grows will be of inferior quality and at the dividing line between that and the old, it may be easily torn.

To take a sample of the wool from the sheep itself, open the fleece over the shoulder, select a few of the strands and with the fingers close to the skin, give a quick jerk. Then twist together the little lock of wool you have and try its strength. If the wool is sound, the man is not living who can tear it after it has been tightly twisted; but if the sheep have not received proper care, it will come apart easily. WILLIAM A. FREEHOFF.

The dark dairy barn is unhealthy, and the absence of light makes it colder. Besides, it injures the eye-sight of the cows and has been known even to cause total blindness.

The farmer who has installed a gasolene-engine to do the work formerly done by the windmill sees one advantage of his choice when he steps into the little engine-house some of these zero mornings and starts things moving with half the bother and exposure it used to cause him.

Feed-supply about exhausted? Many a farmer is in the same row of stumps. Don't make the mistake of trying to force a heavy feeding of roughage to take the place of the balanced ration. One may be compelled to buy feed before grass comes, but it's best to feed both grain and roughage as long as they are to be had. That plan not only means better health to the stock, but it is more economical—actually a smaller amount of the balanced ration is required than of the single article of roughage when that is fed alone. Then the saving of labor necessary for handling the bulky roughage is no small item.

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With Your Subscription

FARM AND FIRESIDE has obtained for its readers the most magnificent assortment of Easter Post-Cards you have ever seen. You can obtain twenty-five of these beautiful post-cards under the most liberal and unusual offer ever made by any paper. Each card is a complete and perfect picture in itself, truly representative of this season of the year. These cards will not only add interest to your own Post-Card collection, but will also be a source of satisfaction to your friends and relatives to receive them

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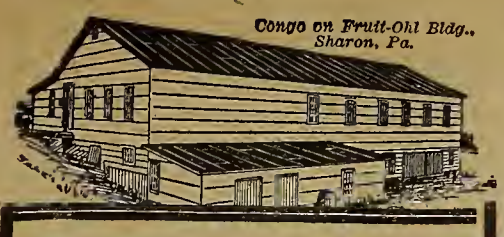
FARM AND FIRESIDE SPRINGFIELD, OHIO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Roofed to Last With Congo

Here is a building roofed with Congo 2 ply in 1909.

In 1913 and in 1917 the roof will require an inexpensive coat of paint. In 1919 the owner will say "That roof hasn't leaked or required any special attention during the whole ten years."

If he can't say that he can say "The manufacturers guaranteed that they would pay for all repairs and they did."

That roof cost no more than roofs that are not guaranteed at all, but the owner knows he is certain to get satisfaction. There is in his safe a Surety Bond issued by the National Surety Company of New York making the guarantee easily enforceable.

Send for sample and copy of Congo Guarantee Bond.

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MR. R. W. PARISH, of Bristol, Ind., R. No. 2, writes: — "I cured one of my horses of thrush. Her feet were rotten; the frogs came out; she laid down most of the time. I thought she would die, but I used the Liniment, and she never lies down in the daytime now."

SLOAN'S LINIMENT

is the best remedy for any kind of horse lameness. You don't have to rub — it penetrates. Price, 50c. and $1.00.

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Live Stock and Dairy

The Way to Show Horses

THERE might be a new adage among horsemen to the effect that "well shown is half sold." It is true that hundreds of us do not get full value for our stock because they do not appear to the best advantage. If this were not so, most of the sales-stables would go out of business. Showing horses is an art that cannot be mastered by everyone, yet there are hundreds of us who, by a little practice and care, can make an animal appear far better than they now do when we lead them out of the barn.

We need have no scruples about having a horse show up to the best advantage. If we do not, we are not only doing the animal an injustice, but our own pocket-book a greater one. You cannot, without extensive deception, make an animal appear better than he really is, but you can easily allow him to look worse than he should. If he does not look his best, there is trouble in getting the price you want. The purchaser pays for what he sees before him, not for what you know you have, and the only way to let the buyer know what you have is to let him see it.

"When he stands make him stand squarely . . . with his head up"

The first point in showing off a horse, either for sale or for the ring, is to have him in condition, and as a rule it does not pay to lead a horse out if he is not in shape. Fattening horses for market pays out as well as fattening beeves. Currying is as important as feeding in this line of work, for a horse well curried will put on cheaper gains than a horse that is left to himself; at the same time a good clean well-kept coat of hair, with foretop, mane and tail in good shape, is worth dollars in any ring. Two or three times a day won't hurt at all.

Before you finally decide to show a horse, lead him out a few times and notice how he acts. Do not expect a green animal to stand up like a veteran the first time that he is led out. How did you feel at your first party? Let him know what is wanted, and do not expect to teach him the whole thing the first time that he is led on the floor. Trot him up and down a few times until you know that he trots as well as you can make him. Stop him quickly so that the horse will look as showy as possible. When he stands make him stand squarely, with his hind legs well back, with his head up and with his forequarters well together and a little back. A study of a few good horse photographs will show the position.

If the animal does not do what you desire, give him a crack or so with the whip, not to relieve your temper, but to direct the horse. Do not hit him on the head if you want his hindquarters over. Let him understand what you want and make him do it.

Finally, do not lead him out with an old halter or a dirty bridle. A white halter is cheap and at the same time is as good a thing to show a horse in as any that you will get. In many large horse shows appointments count as high as thirty per cent. It is as important in the sales-stable as in the show-ring to keep all appointments neat.

B. H. AVERY.

The Right Diet for Calves

A COLORADO subscriber wants to know a substitute for skim-milk in feeding calves, from the time they are one week old. It is not advisable to substitute other feeds for milk in calf-feeding so early in their lives. To successfully raise calves it is best to give them whole milk for the first two weeks, in order that they may gain a good start. Then skim-milk may gradually be substituted during the following two weeks, when the calf should be strong, rugged and growing well. He is then able to stand the change without a set-back.

At this time it is possible to begin substituting for the skim-milk some of the commercial calf meals on the market, or a mixture of shorts, oil-meal and blood-flour made into a gruel by soaking in hot water. To induce the calves to eat the gruel it should first be given them mixed with skim-milk at blood temperature; then by gradually taking away the skim-milk, the calf, having become accustomed to the taste of the gruel, continues feeding and does well. They should be started on one half pound of oil-meal and one half pound of shorts, to which has been added a teaspoonful of blood-flour, all made into three quarts of gruel by the addition of warm water, twice a day. Gradually as the calf grows the oil-meal and shorts may be increased until at the age of three or four months the calf will be taking a pound each of oil-meal and shorts twice daily, in addition to clover-hay, whole oats and cracked corn, which may be fed in a dry form.

The inquirer wants to know whether granulated milk has ever been tried as a calf-food. Not to my knowledge. It might be worth while to experiment with it, cautiously, but it would probably prove more costly than commercial calf-foods or oil-meal and shorts.

HUGH G. VAN PELT.

What is the Best Farm Team?

ON A rough, uneven farm the medium-sized team will prove more satisfactory than large heavy horses. But for smooth land and heavy work I believe there is nothing superior to a well-matched pair of Percherons. They are active travelers, not easily fagged, considering their size, and their progeny is always in demand.

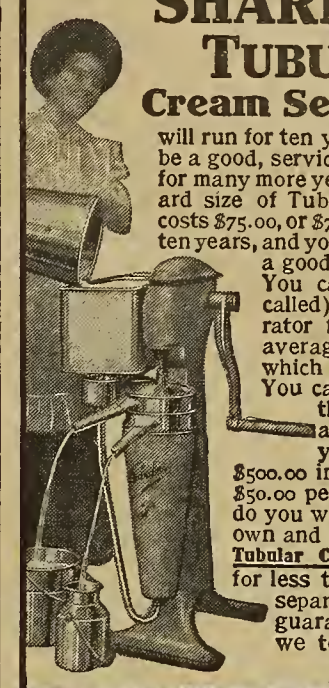
Where foals are not to be considered, mule-teams are invaluable on a farm. Here in the South "most of the horses are mules," as the Irishman in the anecdote said. But farther north mules seem to be less appreciated. When well broken, the mule is at home in front of plow, buggy, rake or a heavy load. As a general rule he gives little heed to any strange sights or sounds, disease seldom bothers him, and if given the same care a horse receives, he will still be useful when the horse has passed out of service.

Very often here in Tennessee mules are worked ten or fifteen years, then rested up, well fed for a few months and sold to the mule-buyers for a good sum and again serve out the lifetime of a farm-horse on the cotton-plantations.

D. B. P.

$7.50 or $50.00

For a Cream Separator—Which? A SHARPLES TUBULAR Cream Separator



will run for ten years and then be a good, serviceable machine for many more years. A standard size of Tubular separator costs $75.00, or $7.50 per year for ten years, and you will still have a good separator left. You can buy a (so called) cheap separator for $50.00, the average of life of which is one year. You can buy another the next year, and so on until you have spent $500.00 in ten years;—$50.00 per year. Which do you want? You can own and use a **Sharples Tubular Cream Separator** for less than any other separator built. We guarantee it. Shall we tell you how?

Write for 1911 Catalogue No. 112.

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and it remains today the standard treatment, with years of success back of it, known to be a cure and guaranteed to cure. Don't experiment with substitutes or imitations. Use it, no matter how old or bad the case or what else you may have tried—your money back if Fleming's Lump Jaw Cure ever fails. Our fair plan of selling, together with full information on Lump Jaw and its treatment, is given in

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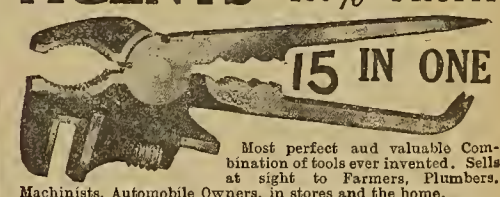

Most perfect and valuable Combination of tools ever invented. Sells at sight to Farmers, Plumbers, Machinists, Automobile Owners, in stores and the home.

Made of Drop Forged high grade carbon steel. One agent in Essex County, N. Y. after a 6 days' canvass ordered 100 tools. His profit $100.00. Big snap for agents. Sample free to workers.

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A Marvel of EASY Running

There have been tremendous advances in the running qualities of the United States Cream Separators.

The skimming power is there. The same that won the world's record in fifty consecutive tests extending over a period of thirty days with the milk of ten different breeds of cows. .0138 of one per cent.

With the new Interlocking skimming device, the centrifugal action on the milk is so **intensified,** the course along which the milk is forced to travel so **lengthened,** the skimming force so **increased,** that the Interlocking bowl for any given capacity is reduced nearly **one-half** and runs with about **half** the **power** required for older models.

Now add to this great improvement the fact that the United States Separator is the only successful separator that distributes the incoming volume of the whole milk **evenly outside the cream zone,** thus preventing any remixing of cream and skimmilk, and you will see why it is that the Interlocking Style U. S. Separator is gradually displacing every other separator on the market.

A free demonstration will be given by selling agents who are located in nearly all dairy sections of the country. Ask for catalogue No. 69 today and we will give you agent's name.

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"Pittsburgh Perfect"
Wire Fencing is *best* all through.

THE BEST WIRE The wire is drawn from a special quality of open hearth material—tough, pliable, strong, long lived like old-time iron wire. It is the finest fencing wire possible to manufacture.

Galvanizing Perfect Heavily galvanized by our own new and perfect process, the wire is positively moisture-proof. The fact that

All Stay Wires and Line Wires are Electrically Welded

not only eliminates the weakening and moisture-gathering wraps, clamps and ties, but practically transforms the fence into *one piece* of perforated steel.

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Sectional view—Amalgamation perfect. No seam

No Waste Wire There is no waste wire to make useless weight; instead, heavier wire is used and ***all*** the weight **NoWasteWeight** is ***fence.*** Stay wires being of the same size as line wires, the

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EVERY ROD GUARANTEED PERFECT

Catalogue showing 73 different styles and sizes, adapted to every purpose—FIELD, FARM, RANCH, LAWN, POULTRY—Sent free on request. Sold by dealers everywhere

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Live Stock and Dairy

Sensible Farrowing Hints

A Kansan's System

MY FARROWING-HOUSE consists of a huilding forty feet by twelve, facing the south, sloping from a seven-foot elevation in front to a four-foot elevation on the north. The doors are hinged, being kept open or closed as the weather permits.

There are five pens in the house and five yards hehind it, the yards being eight feet hy twenty. Both pens and yards are separated with hog-tight fencing strung on two-by-four scantlings. Thus the hogs can see each other, hut cannot fight or quarrel.

I aim to breed all my sows within a week or ten days of each other. Thus the pigs are more even in size and there are no rohbers. Ten days hefore farrowing I put each sow in a separate pen and feed lightly of corn feed, a slop of one half gallon of shorts and a tahlespoonful of oil-meal, once daily. This, with the addition of clean water, a little trough of salt and ashes, is sufficient.

A light straw hed is provided so that the afterbirth and other litter can he readily cleaned up and taken away. When the haby pigs are a day old, I remove their little tusks, using an ordinary pair of hoof-pincers. This prevents the sow from having sore teats and lessens the liability of her hecoming impatient and stepping on the little fighters. I feed lukewarm slop the first two days, two or three ears of corn until the fifth day, and then four to six ears. When the pigs are two weeks old I give the sow her liherty so that she can have green food, such as grass or alfalfa when it can be had.

One thing more—he gentle with your sows and see that they are gentle, for that is the secret of success. CHARLES B. CORBIN.

Bunks for Mama Sow

An Ohioan's Experience

FOR the early pigs we have for a number of years employed the A-shaped hog-bunk very successfully. Our hunks are six feet square on the foundation, and five feet high to peak of roof. A door in one end admits the occupants, and a small opening in the end of each gahle at the peak admits sufficient ventilation.

Our houses are all made from shiplap pine and well coated with red oil paint. There are no floors as we use plenty of stalks and straw for bedding and locate the houses on drained ground.

Previous to farrowing, we have our sows run in the open field getting much-needed exercise, and do not pen them closely until a few days hefore farrowing, when each one is given a house alone.

The diet consists of corn and oats, slops and corn stover and clover hay.

If the weather is very rough and brisk, we have gunny-sack curtains with a sawed strip of wooden material fastened to the bottom to hold the curtain down.

We also have a hook fastened into the peak of each roof, and if the weather for several days after farrowing is very frosty we hang a lighted lantern on each hook which makes the temperature as pleasant as summer-time for the youngsters.

We allow the sows to do their own hedding in these houses as they have plenty of space.

With a generous ration of slops and roughage, we seldom have a cannihal sow as is often the case in winter farrowing. However, to guard well against such attacks we make a condition powder by raking up the waste stalks and cobs ahout the pens, burning them into a charred mass and adding a little salt, sulphur and water.

In cold and stormy weather, the curtain of burlap is drawn over the door. This curtain does not reach quite to the hottom and the sow soon learns to lift it with her snout. Thus when she leaves the nest for feed her litter is kept warm and comfortahle.

A feature we like very much in the use of the hog-hunk for early litters is the fact that as soon as the pigs are a few days old and hecome inclined to stir ahout, they may soon be found basking in the sunshine at the open doorway during the middle of the day. Pigs which come early and are kept in dark, cold quarters spend too much of the time huddled together in their nests in an effort to be comfortable. Early pigs must be kept stirring in order to promote growth and good health, and a light, sunny hunk is the best place, according to my experience, to produce such results. GEORGE W. BROWN.

Paste This in the Stable

The driver should be the horse's best friend.

It is everybody's business to interfere with cruelty.

You can get no more power from your horse than you give him in his food.

Jerking the bit and yelling confuse a horse and advertise a blockhead.

Your horse needs water oftener than you.

Any fool can ruin a team, but a wise driver maintains its value.

A sandy or muddy road doubles the work.

A rise of one foot in ten doubles the work.

Check-reins are injurious unless left slack.

Your horse may intend to please you, but does not understand your wishes.

Axle-grease pays one hundred per cent. profit.

He who abuses his horse will abuse his wife or children.

Victor C. Dieffenbach.

Overcoming Foot-Rot

"WHAT can I do to cure foot-rot?" is the question of an Illinois subscriher whose sheep have suffered seriously with this too-common trouble. Some are not only lame, but their eyes are so sore they are almost blind.

When foot-rot occurs in a flock, all sheep suffering from it should be separated from the flock as soon as detected. Their feet should be pared to remove all loose portions of hoof, and all parts of foot washed clean. When dry, all raw places should be painted lightly with pure "hutter of antimony," using a feather to apply it, taking great care to avoid touching the healthy tissue with the drug, as it is very caustic. Sheep should then be confined on a clean, dry floor which has been lightly sprinkled with fresh slaked lime, until all sores have healed and the lameness is gone. Repeat this treatment until they are all healed.

When the disease has become estahlished in a flock, and new cases appear, the whole flock should he treated as follows: Examine all feet and pare away unnecessary hoof, putting the feet in as natural a shape as possihle. Next construct a shallow foot-bath, twelve inches wide, twelve feet long and four to six inches deep, with cross-slats (laths) six inches apart to prevent slipping. Foot-hath is now placed in a narrow runway made hy hoarding up each side, leaving a space just wide enough for a sheep to pass through. When all is ready, the hath should be flooded three inches deep with a solution of sulphate of copper, one tahlespoonful to each gallon of water, through which the sheep should be driven two or three times a week and removed to a dry pasture after the treatment.

For sore eyes, bathe with following solution once or twice daily, letting it go into the eye:

Boracic acid ..... 3 drams.
Sulphate of zinc....½ dram.
Boiled water..... 1 pint.

To prevent foot-rot among sheep, the owner should trim their feet at least twice a year (spring and fall), removing all surplus hoof with a sharp knife. He should not keep them on low, marshy land, which also causes foot-rot. FRANK KLEINHEINZ.

$15.95 AND UPWARD

THE LOW DOWN AMERICAN SEPARATOR

EXCELS ANY SEPARATOR IN THE WORLD

THIS OFFER IS NO CATCH. It is a solid, fair and square proposition to furnish a brand new, well made and well finished cream separator complete, subject to a **long trial** and **fully guaranteed,** for $15.95. Different from this picture which illustrates our large capacity machines. Skims **1 quart of milk a minute,** hot or cold; makes thick or thin cream and does it just as well as any higher priced machine. Any boy or girl can run it sitting down. The crank is only 5 inches long. Just think of that! The bowl is a sanitary marvel, **easily cleaned,** and embodies all our latest improvements. Gears run in anti-friction bearings and thoroughly protected. Before you decide on a cream separator of any capacity whatever, obtain our $15.95 proposition.

OUR LIBERAL TRIAL ENABLES YOU TO DEMONSTRATE THIS. While our prices for all capacities are astonishingly low, the quality is high. Our machines are up to date, well built and handsomely finished; run easier, skim closer, have a simpler bowl with fewer parts than any other cream separator. Thousands of machines in use giving splendid satisfaction. Write for our **1911 catalog.** We will send it free, postpaid. It is richly illustrated, shows the machines in detail and tells all about the American Separator. Our surprisingly liberal long time trial proposition, generous terms of purchase and the low prices quoted will astonish you. We are the oldest exclusive manufacturers of hand separators in America and the first to sell direct to the user. We cannot afford to sell an article that is not absolutely first class. You save agent's, dealer's and even catalog house's profits by dealing with us and at the same time obtain the finest and highest quality machine on the market. Our own (manufacturer's) guarantee protects you on every American Separator. We ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalog. ADDRESS,

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BUY THE LOWEST COST ENGINE ***MADE.*** Lowest fuel cost; lowest up-keep cost; easiest on the machine it operates, delivering steadier power than any other gasoline engine, adapting it especially for operating farm machinery, with better results and least waste of grain. Lowest fuel cost for it runs on Gasoline, Kerosene, Distillate, Gas or Alcohol and has perfect lubrication. Lowest cost because it delivers greatest available power per horse. A slow speed, high duty engine. Starts easier and quicker than any other engine, occupies less space, is less cumbersome, with less vibration, therefore adapting it for either stationary, portable or traction use. **IT IS THE POWER CONTRACTOR'S FAVORITE ENGINE.** No engine made has so wide a range of use. **YOU WILL MAKE A MISTAKE IF YOU DO NOT WRITE US FOR INFORMATION.** 1½ H. P. to 5½ H. P. single cylinder. 6 to 20 H. P. two cylinder. 30 to 50 H. P. four cylinder. State your requirements and get our advise. **THE TEMPLE PUMP CO., Manufacturers, 492 West 15th St., Chicago, U. S. A.** This is our 58th year.

Trade Mark
Not in a Trust

The Century BOOT
(Beacon Falls Brand)

If you had rubber boots made to order, you couldn't have them made better than the CENTURY BOOT. It is made of the best rubber produced. The vamp is made extra strong. To prevent cracking at ankle an extra pure gum, no-crack ankle reinforcement is used.

Made from the best Rubber produced in the World

IT IS THE CHEAPEST

because best—best in material, best in workmanship, and best for wear. Those facts are also true of the entire Beacon Falls line. When you want a high grade satisfactory rubber boot or shoe, insist that you be shown goods bearing the Cross. It insures you quality and service. If you can't secure Century Boots from your dealer, write us. Send his name. We will see that you are supplied. Send for illustrated booklet.

BEACON FALLS RUBBER SHOE CO.
New York Chicago Boston

LET US TAN YOUR HIDE.

Cattle or Horse hide, Calf, Dog, Deer, or any kind of skin with hair or fur on. We make them soft, light, odorless, wind, moth and water proof, and make them into coats (for men or women) robes, rugs or gloves when so ordered.

Your fur goods will cost you less than to buy them, and be worth more. Send three or more cow or horse hides in one shipment from anywhere east of Denver and we pay the freight both ways.

Get our illustrated catalog which gives prices of tanning, taxidermy and head mounting. Also prices of fur goods, and big mounted game heads we sell.

The Crosby Frisian Fur Company,
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AGENTS MAKE $18 to $30 Per Week

SEE THAT REEL

THIS AWL SEWS a Lock Stitch like a machine. Just the thing for repairing Shoes, Harness, Buggy-tops, etc. Sews up Grain Bags, Tents, Awnings, and Wire Cuts on Horses and Cattle. Makes a neat, durable repair and quickly, too. Has a diamond point, grooved needles, metal handle, and a reel holding 50 yards of waxed thread. Can be carried in any tool box or the pocket. One man sold $200.00 worth in four days. M. Neal sold 20 in 5 hours, cleared $8.50. Had no experience. Regular price $1.00. Complete sample with three kinds of needles, needle case and two reels of thread sent postpaid for 60 cents. 2 for $1.00. Satisfaction or money refunded. Send quick for sample and complete instructions.

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For those who have from 300 ft. to 1½ miles to go for their mail. Easily placed on telephone poles or 2 x 4's fastened to fence posts. The

OAKWOOD MAIL CARRIER

Made entirely of metal. Ball-bearing pulleys. Sold on thirty days' trial. Write for book "Getting the Mail."
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It takes a wax thread, feeds from spool and does the work of any harness maker machine. It is indispensable for farmers. Agents wanted. Sent prepaid for $1.25. Send at once for catalog.

shoes, tents, awnings, pulley belts, carpets, saddles, suit cases, buggy tops, dash boards, or any heavy material.

STEWART'S AUTOMATIC AWL is the only perfect Sewing Awl.

STEWART-SKINNER CO.
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13¼ Cents a Rod

For 18-in. 14 3-4c for 22-in. Hog Fence; 15c for 26-inch; 18 3-4c for 32-inch; 25c for a 47-inch Farm Fence. 48-inch Poultry fence 28 1-2c. Sold on 30 days trial. 80 rod spool Ideal Barb Wire $1.45 Catalogue free.

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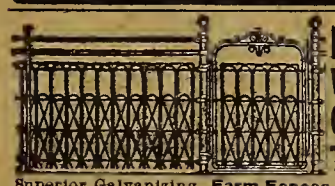

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Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.

Coiled Spring Fence Co.
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Many Styles. Sold on trial at wholesale prices. Save 20 to 30 per cent. Illustrated Catalogue free. Write today.

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CYCLONE

Fences and Gates for Farm, Home, Parks or Cemeteries. Increase property values. Strong, Lasting, Handsome. Easily erected—all heights up to 10 feet. Our catalog and prices will interest you. We pay freight.

THE CYCLONE WOVEN WIRE FENCE CO.
1242 E. 55TH STREET CLEVELAND, OHIO

Live Stock and Dairy

Sheep Experience in Maryland

Most of the killing of sheep by vagrant dogs is done at night. On many farms the sheep are left in the field or in an easily-climbed rail pen during the night. The sheep-fold can be made dog-proof by planking up a fence two or three feet high, then putting six-foot wire netting above this with a strand of barbed wire above all. Thirty to fifty feet square is sufficient for the average flock.

In some regions the sheep will need daytime protection, also. In such cases a boy of ten or more, armed with a light rifle for dogs, should be with the flock all day. If he plays with the sheep and is gentle as every shepherd should be, they will follow him anywhere, especially if he carries an apple or two, or an ear of corn to toll along the leader.

An open shed wherein they can be penned on rainy days is a necessity, for nothing is so injurious to the hoof as wet standing-room, and wet fleeces bring on a whole train of sheep ills. In this shed put their hay-rack, with upright bars, so that they must pull out every bite. Then they will not waste hay underfoot. Here, also, put a V-shaped trough, with the sides smeared with pine-tar in summer, so that in eating the grain they daub their noses, and keep away flies. Another good place for tar is around the places from which the sheep lick their salt—holes in a log, for instance. Pure clean water is, of course, a necessity.

There will be less likelihood of foot-rot if the fold is scraped often with hoe and shovel, and the manure carried to the fields at once.

The shepherd should watch the flock at all times, and be able to tell at a glance when one of them has a torn ear or snagged place, or when the dirty wool needs clipping behind. Many an hour can profitably be spent clipping tag-locks, mashing ticks or petting the leaders.

A wide-spreading shade-tree is a joy to sheep in the pasture-field in summer, and a real rest out of the sun at noon does them good.

C. E. Davis.

Favors Fall Calves

One of the greatest blunders one can make in the handling of dairy cows is to breed all of them so they will come fresh at practically the same time in the spring. There are these notable drawbacks to the system:

With all the cows dropping their calves so nearly together, the extra care and labor required to handle them properly must be given at a time when the farmer ought to be doing his rush spring work—the most important of the season—or, at least, be preparing to do it, while milking, separating and handling dairy products will claim a lot of his attention through the whole summer season.

We aim to breed the cows so that a part of them will drop their calves in the fall, the rest coming fresh during the spring months. This system not only avoids the above drawbacks, but provides for a steady income from the sale of dairy products the year round, and furnishes plenty of milk, cream and butter for family use at all times, besides a steady milk-ration for hogs, poultry and calves. We have known farmers to buy butter in the winter, and they would have bought milk had it been convenient to do so.

Still another advantage: Aside from the fact that one has more time in which to care for fall calves, I believe they do better than the ones dropped in the spring. Of course, they will require snug quarters and a little extra grain, but they will also escape the heat of summer with its liability to scours, sun-stroke and other deteriorating influences, while the absence of the blood-sucking, torturing flies is another item that commends breeding for fall and winter calves.

M. Coverdell.

For Footsore Horses

"How can I cure a mare whose feet are very sore and stiff?" asks a Connecticut reader.

Build a box stall ten or twelve feet square. Have six or eight inches of sand all over the floor. Supply a bed of litter on top of the sand at night, but during the day leave the sand bare and clean, removing what gets soiled. Now remove the shoes and pare or file the sole of the foot evenly all around it, so as to leave the frog lower than any other part. This will give frog pressure all the time. This may cause a trifle more lameness at first. Keep the feet carefully in this shape and do not shoe. Drive only when the ground is covered with clean snow and then as often as possible. If this treatment is carefully kept up during the winter months, improvement will follow. In summer, drive on earth roads and avoid pavement and stone. If the animal cannot be used barefooted, shoe with shoes of full size (not "tips"), but without heel or toe calks, and have the sides and heel of shoe hammered down so as to let the frog take a good share of the weight. Do not shoe in such a way as to elevate the toe above its proper position and have the shoe rather "easy" where it bears at the heel. While it is difficult to effect a cure in a case of this kind, if this treatment is faithfully carried out, improvement will be noticed.

David Buffum.

About Poll-Evil

A case is described by a Maryland reader in which a horse had an apparent bruise on the top of its head, with scabs and some watery discharge. Our inquirer does not state whether there was swelling or not. In such cases, if there is swelling, the horse may be developing poll-evil, which is simply an abscess as a result of a severe bruise of the top of the head, called the poll. If such be the case, have a qualified veterinarian examine the horse as soon as possible, as all such cases are beyond the skill of novices.

On the other hand, where there is no swelling, the trouble is likely due to some slight bruise of the skin causing a watery exudate. This will soon get well if the place is given a daily sponging with a strong solution of sugar of lead, using an ounce of the lead to a pint of warm soft water.

C. D. Smead.

Dog Losing Hair

An Ohio subscriber has a fine collie dog which is losing its hair. He says there are no sores on the skin, but are simply bare dark spots. This trouble must not be confused with skin disease; it is due to a disease or weakness of the hair "follicles," the little sacs in which the roots of the hairs are inclosed. The following may be applied once a day: Alcohol, four ounces; glycerin, one ounce; tincture of cantharides, one half ounce; aromatic spirits of ammonia, one and one half ounces.

C. D. Smead.

You can very easily overdo the matter in feeding oil-meal to brood sows. A quarter of a pint to each one hundred pounds the hog weighs is a pretty safe quantity to give, allowing less if the bowels become too loose, and more if they are not free enough.

Save 50% on "Breco" ROOFING

DIRECT FROM FACTORY

Prove 50% cash savings direct-to-you on old reliable "Breco" Rubber Roof—guaranteed waterproof, fire-resisting and long-lived. Special process of long-fibre wool felt saturated in asphalt. Heavily coated on both sides. Cannot crack, wrinkle or leak.

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We pay the freight to all points east of the western boundary line of Minnesota, Iowa and Missouri, and north of the south line of Tennessee. Every roll of our Roofing is exactly alike—always uniform—never varying in any particulars. Write for samples and book. Satisfaction guaranteed or money back. Such remarkably low prices may never be offered you again. Don't wait. Write Now.

The Breese Bros. Co.,
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Free Cement and Special Roofing Nails inclosed in each roll. Hammer lays it.

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Heaviest Fence Made
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We make 160 styles. Horse cattle, sheep, hog, and bull proof fences made of No. 9 double galvanized wires and absolutely rust proof

Bargain Prices:
14 cents per Rod Up

Poultry and Rabbit Proof Fences, Lawn Fences and Gates. Send for Catalog and Free sample for test.

The Brown Fence & Wire Co.
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FENCE

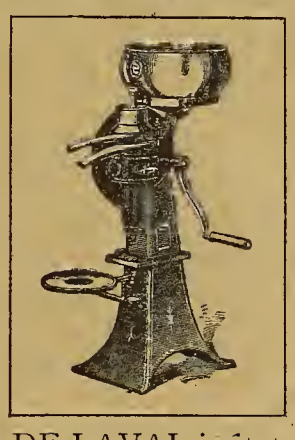
FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.

COILED SPRING FENCE CO.
Box 18 Winchester, Indiana.

Genuine and Imitation CREAM SEPARATORS

The all-around superiority of the DE LAVAL Cream Separators, in farm as well as factory sizes, has now become so generally recognized that would-be competitors have, almost without exception, adopted the pretext of merely claiming that the machines they offer are "like the DE LAVAL", or "as good as the DE LAVAL", while some even go as far as to claim that their machines are made under a patent license from the DE LAVAL Company.



All of these claims and pretenses are false and a fraud upon the buyers of such machines, except to the extent that each and everyone of these would-be DE LAVAL imitators is using some ten to twenty year old patent expired and now abandoned type of DE LAVAL construction, though lacking all the essential elements of the improved DE LAVAL machines of today, or for that matter the DE LAVAL machines of the past five years, while none of them do or can use the still patent protected "split-wing" distributing shaft feature of all DE LAVAL machines since 1900.

Buyers of separators are cautioned against such deceptive misrepresentations by those who may try to induce them to purchase machines claimed to be similar to the DE LAVAL, but which in no way compare in efficiency, capacity or general practicability with the DE LAVAL machines of TODAY.

DE LAVAL Cream Separators are as much in advance of all attempted competition today as at any past time, and their use is speedily becoming as universal on the farm as it has long since been in the larger size in the creameries and milk stations the world over.

THE DE LAVAL SEPARATOR COMPANY

165-167 Broadway NEW YORK
42 E. Madison Street CHICAGO
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173-177 William Street MONTREAL
14 & 16 Princess Street WINNIPEG
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Your Winter "Snowshoes"

It's time now to buy your heavy winter shoes.

Let them be good and strong. See that they have heavy soles, proof against mud, snow and icy streets.

They must turn aside the stinging arrows of Jack Frost and keep your feet warm and comfortable.

But be sure that these shoes are smooth inside.

You Have Only to Get the

GOODYEAR WELT

Base your next shoe purchase on the "Goodyear Welt."

It is the patented basis of more than five hundred different trade-marked shoes. Some of these are sold in your town.

Go to your shoe retailer. Ask to be shown the new "Goodyear Welt" shoes for winter.

Your request for these famous welts stamps you, in your dealer's opinion, as one who knows the best practice in shoe manufacture.

He will show you how the Goodyear welting machine has done its marvelous work.

How insole and upper are first stitched to a narrow strip of leather running around the shoe.

How the heavy outer sole is lock-stitched to this welt, leaving all seams on the outside—the inside is left smooth.

Think how much this smoothness means to your comfort, especially in winter shoes, which must be made of heavier leather.

Decide now you are going to get this added comfort in your winter shoes, that your very next shoes for business or dress wear will be Goodyear Welts.

But first write us for a list of all Goodyear Welt shoes sold under five hundred different trade names.

Your inquiry brings a booklet illustrating the evolution of a shoe as it passes through sixty machines, and also our booklet, "The Secret of a Shoe—An Industry Transformed," which tells the true story of a great American achievement.

"Goodyear Welt" guarantees *good* leather in the shoe. Guarantees shoe comfort and durability to the wearer.

United Shoe Machinery Co.

Boston, Mass.

USMC

Farm Notes

Nut-Culture as an Industry

In view of the growing interest now being taken in walnut culture throughout the country, and the fact that the industry is only in its infancy, some information along this line will be appreciated by the progressive agriculturist. It was comparatively a short time ago that the growing of English walnuts for the market started in California.

A Twig From One of Mr. Pomeroy's Trees

And while they are now shipping out in trainloads every year, yet the United States imported in the year ending June 30, 1905, over twenty-one million pounds of English walnuts and this has increased since then.

As an indication of what has been done in a similar line the prune industry can be cited. Not many years ago the United States was importing regularly great quantities of prunes, now we have become exporters on a large scale. It is predicted in a like manner that in time the United States will be exporting English walnuts.

The hardy variety mentioned in a previous article (December 25th) in this paper and named the Norman Pomeroy by Prof. H. E. Van Deman has proven that the English walnut can be grown in about any part of the United States where the thermometer registers not lower than ten degrees below zero. Several orchards of this variety are now started around Lockport, New York.

In planting an English-walnut orchard it is well to get stock that has come from acclimated bearing trees. The young stock does not grow over one foot the first year and for the first three years grows slowly, rarely exceeding over four feet. During this time they are the best for transplanting, as they then have their roots formed and after that the growth is much more rapid.

English-walnut trees do not seem to require any special soil, but should not be set where it is low and wet. The trees should be planted forty to fifty feet apart each way. A cultivated crop such as corn or potatoes with peach-trees for fillers can give an income before the trees bear.

The pruning should be done between fall and spring, only such branches as would interfere with cultivation being removed. In planting on the lawn the ground should be kept spaded for the first few years three feet around the base of the tree. After the first year some well-rotted manure can be worked into the soil around the tree.

The soil should not be worked around walnut-trees after August, as it would encourage further growth and from then till fall the wood should ripen and harden in order to withstand the winter. They are fine lawn trees, as they make very little litter and have a clean white bark and a heavy dark green foliage. The sap has a soapy taste, and owing to this, so the New York State nursery inspector claims, will not be injured by the San Jose scale.

A Regular Walnut Factory

Although the tree has both the male and female blossom and is thus self-fertilizing, it is well to plant several to insure thorough pollination.

NORMAN POMEROY.

Extra Early Oats

Out in Nebraska's dry-farming district they are beginning to notice and plant a variety of oats that ripens by June 28th, before droughts, hot winds and various insects come to devastate. Usually the corn-stalk ground is saved for the oats and barley and is disked, then harrowed down soon as the frost is out of the ground. After about two weeks the seed is drilled in, one and one half bushels to the acre, and a crop is assured. Though we have high spring winds, yet I've never heard of oats being blown out or making a yield under twenty-five bushels when planted right and before April 1st. Last year one operator cut oats June 22d that he had planted March 20th and made thirty bushels. Barley planted at the same time will come in July 4th or later, likewise with late oats.

A curious thing is that these extra early oats are, so far as we can learn, grown only in this one county (Redwillow). They are a proven variety, as in a seven-years' trial on forty acres these oats averaged over thirty-seven bushels—proven for our section at least.

C. BOLLES.

A Not-So-Expensive Luxury

Here is a good showing for the farmer's automobile. Mr. Jay Callahan, an old subscriber of FARM AND FIRESIDE, writes from Williamstown, Ohio: "In April, 1910, I purchased what they call an expensive luxury, a five-passenger touring car, fully equipped, for nine hundred and fifty dollars. So far I have paid twenty-five cents for repairs, never had a tire puncture or serious trouble of any kind, always coming back home on my own power. The speedometer registers 2,034 miles and I have paid for gasolene and oil, both for the engine and hard-oil cups, just $20.27."

Did You Try The NEW Schumacher Feeding Plan?

These Dairymen Did

THE QUAKER OATS CO.
Chicago, Ill.

Gentlemen:—During the past few months I have been feeding my dairy a ration composed of equal parts of Gluten Feed and Distillers Grain. About two weeks ago I left out the Distillers Grain and began using Schumacher Feed in its place and feeding just the same amount. In two days my dairy bas gained thirty pounds of milk per day.

At present I am getting as much as 425 pounds of milk per day from fourteen cows. Thirteen of these cows have been milked since last March and April.

The most important point to be considered in this test is the fact that, while Schumacher's cost me $6.00 per ton less tban the Distillers Grain, my cows actually gained in milk production hy feeding it, and at a time when, as every dairyman knows, it is the tendency for cows that have been milked continuously, as long as these have, to sbrink.

Yours very truly,
J. E. MURRAY, Freedom, N. Y.

THE QUAKER OATS CO.
Chicago, Ill.

Gentlemen:—Scbumacher Feed has heen a large factor in the ration we feed our herd for the past two years. We feed one-half Schumacber and one-half Gluten Feed. This summer our feed dealer was out of Schumacher and we bought one ton of bran to take its place. After feeding this a few days we saw our cows were shrinking. A car of Scbumacher arrived after we had fed 1,600 pounds of bran. We changed directly to Schumacher and in three days our cows gained a ten-gallon can of milk. During one week of last June we milked 1,600 pounds of milk a day from forty cows, whicb you will note is an average of forty pounds to the cow. This was done on a ration of Schumacher Feed and Gluten. The strong argument in favor of Schumacher Feed is that it keeps our cows in good flesh while they are producing milk. Every cow we have sold during the past year has gone directly to the slaughter house and she has been sold after producing a large flow of milk all the season. We consider it a hard proposition to make milk tbe year around as we do, without Schumacher Feed.

Yours very truly,
C. HASKELL & SON, Sandusky, N. Y.

Did You Read Our "Message to Dairymen"

in our previous advertisement in this paper? It is a money saver of unusual value. We told the dairymen and farmers of this county how they could save $5 to $8 a ton on their feed by following a simple feeding plan we have recently discovered. The letters above tell their own story.

Here is the Plan—Will You Try It Now?

You, no doubt, are feeding high protein concentrates such as gluten, cotton seed meal, malt sprouts, oil meal, Blue Ribbon Dairy Feed and other similar high protein feeds, etc. If you will combine SCHUMACHER FEED with any of these in half to two-thirds the ration, you will not only save $5.00 to $8.00 per ton on your feed, but get far better results in both milk and "condition" of your cows

You know the prices for milk were never higber, making it especially desirable to get the fullest returns from your cows right now. Again, the present favorable prices of coarse grains making it possible to sell

Schumacher Feed

at or below the price of bran is another good reason why you should try this new feeding plan which saves you money on feed cost. But there are still many other advantages. **Schumacher Feed** which is composed of a variety of grain by-products such as corn, oats, wheat and barley, blended scientifically, ground and kiln-dried, furnisbes just the nutrients your cows require to give them strength and vitality with which to stand long milking periods. It is also a tissue builder as well as a milk maker and will put your cows in healthy, sleek condition, ready for the butcher wben dry. It is without doubt the finest feed on the market today. Ask your dealer for Schumacher. If be can't supply you, write us.

The Quaker Oats Co.

Chicago, U. S. A.

SAVE $5 to $8 PER TON On Your Feed

Schumacher Feed is Especially Good for Hogs. Try it.

Farm Notes

Get Your Money's Worth

EACH year the farmers of this country expend more than one hundred million dollars for farm machinery. Something more than three per cent. of the income from all the crops raised is turned over to the machinery man. Very, very few one-hundred-and-sixty-acre farms get along with less than one thousand dollars' worth of machinery, and I know of hundreds where two thousand dollars would not have bought all the tools on the farm. Mighty few pieces of farm implements last over ten years and an even greater number are worn out or antiquated in seven or eight. Thus the farmer on a hundred-and-sixty-acre farm is compelled to lay out one hundred dollars or better each year in the purchase of new implements in addition to the sixty dollars for interest on the capital tied up in his machinery, and an unknown amount for repairs.

Care of this enormous amount of machinery would save millions to the farmers every month. But I am not going to talk about that, for many of us are as careless about the way we buy them as we are about placing them under cover, and if you have not got something that is really worth something there is no use to bother about putting it out of the wet. Too many times a smooth-tongued agent comes around with a line of talk that would make us think white was black and as a consequence we buy a tool that is worthless from the standpoint of materials and construction or, what is equally bad, that may be built all right but not adapted to our uses. On almost every farm we find some such piece of machinery behind the barn or out of sight some place which represents "experience."

One of the first things to consider when buying machinery is its adaptability to local conditions. As a rule there is some one machine made that is adapted to your own specific needs and it will pay you well to take enough time to find out that implement rather than to accept some substitute. I know of people who will buy a disk for use in stony ground when common sense tells us that the spring tooth is the tool to use under such conditions. This was done in one case that came to my attention because the local dealer did not keep the spring tooth in stock. So it goes. Two years ago we knew early in the winter that we needed a hay-loader. Rather than bother about looking up the catalogues, we let the thing slip until we needed the tool. Then we had to take what we could get, which happened to be one of the endless-apron type that was not at all adapted to the handling of the heavy hay that we had. As a consequence we lost exactly fifteen dollars' worth of time.

We do such things, and every one else does at times; but it does not pay. The late David Rankin would discard a whole line of tools were he able to find another that would do the work a little better or do the work as well, but faster than the type already in use. It paid him. On the contrary, many of us will buy a tool that does not work as efficiently or do as much as some tool already on the market, because we do not take the time to look up the matter.

Then again we seldom examine the detailed construction of a tool. We seldom know whether it is made of steel or of cast iron. We do not look at the braces and we take the whole thing on the word of the dealer. One thing that should require especial attention is the provision made for oiling. This is of prime importance in the case of all machinery that is likely to get covered with dirt or sand. Where there is any chance of sand getting in the bearings they should never be fine or small, but rather especially strong and stout. C. A. WAUGH.

Grass in Missouri

I DO not know in what part of Missouri Mr. J. J. Kelly made his observation that it takes years to get tame grass to grow on new hill land, as he stated in FARM AND FIRESIDE a few numbers back. On much of the hill land here in Christian County grass will grow readily as soon as the timber is cleared off and the land broken.

A neighbor of mine has a field which he cleared and broke two years ago, raised a crop of corn and then sowed timothy. This year he cut a good crop of hay. Of course, he had to cut the hay with a scythe, for the field is very stumpy and many dead trees are still standing, but the grass grows all right. Clover thrives on this soil wherever it is given a fair chance, and our general practice is to clear a piece of ground, raise two crops of corn, sow small grain and seed to clover, and after that follow a rotation that puts a crop of clover on the land every third year. Until we get the stumps out of the way we use the clover as pasture for hogs or cattle, thus getting the maximum of benefit with the minimum of labor.

COURT W. RANSLOW.

A Willow That Gives Posts

THE willow is one of the most widely distributed and useful trees in the northern hemisphere. The wood is useful in a variety of ways in the industries, and for fuel. Charcoal, used in the manufacture of gun-powder, is produced from certain willows, and osier willows are extensively used in basket-making and wickerwork. But none of the well-known willows yield wood that is durable in contact with the soil, and on this account it cannot be used satisfactorily for posts and other outdoor purposes on the farm. The life of an ordinary willow post is about four years.

But there is a little known variety of willow, the diamond willow, *salix cordata vestita,* which makes a most durable post; many who have thoroughly tested its lasting qualities claiming it to be even superior to catalpa speciosa for this purpose. The life of the diamond willow post is from fifteen to twenty-five years. Some posts of this wood have been in use in the climate of western North Dakota for thirty years and are still in good condition. The habit of growth of this tree and its easy culture make it well nigh an ideal one for cultivation where suitable soil may be had.

There is no description of the diamond willow, or information concerning it, to be had from the government forestry department. It seems to have escaped the notice of the national agricultural department and I have been unable to obtain anything in print about it from any of the state forestry stations to which I have written. Neither have I found a description of it in any of the standard botanies.

The diamond willow is somewhat similar in form and habit of growth to the golden willow, but it does not grow so large. It attains a height of from fifteen to twenty-five feet, and a diameter of about ten inches at the butt. It is native along the Missouri River in the Dakotas, but is seldom found southward of that region, except as cultivated. It has not been planted to any considerable extent, for the reason that its qualities for durability are practically unknown outside its native region.

Groves are Profitable Experiments

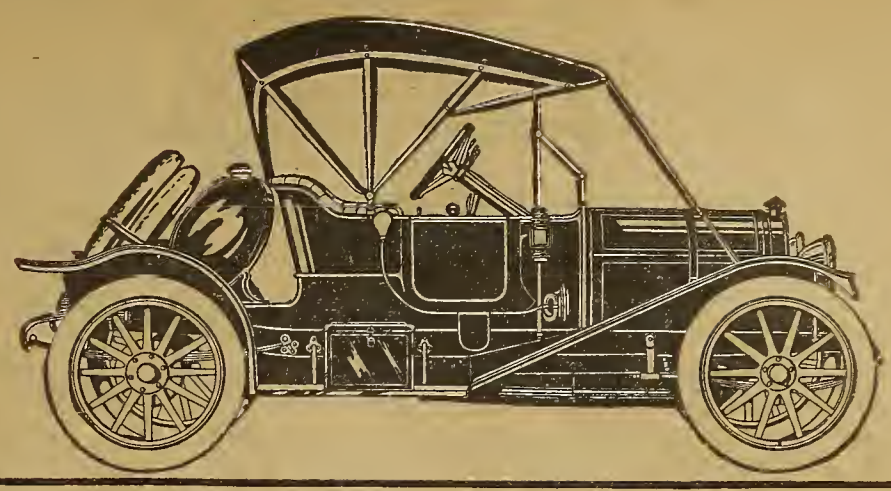
Recent experiments have proven that in favorable conditions the diamond willow thrives under cultivation, and that its growth for posts is profitable. The farmers of western North Dakota, where the tree is found in the greatest abundance in its native state, have been using it for posts for a good many years, and they are enthusiastic concerning its good qualities. Prof. C. A. Scott, Forester at the Iowa Experiment Station, speaks in unqualified praise of it.

Undoubtedly a planted grove of diamond willows would prove a source of satisfaction to the farmer. Nurserymen who handle it report a rapidly increasing demand for it. It thrives best in moist soil, and land which is too wet for general cultivation can be made valuable by setting it to this tree. Seedling trees two or four feet in height may be had for about six dollars a thousand.

As the trees are small in habit of growth, having trunks only six to ten inches in diameter, they may be planted quite close together. Set four feet apart each way, about twenty-five hundred trees may be planted to the acre. When the grove is eight years old cuttings may be made for use, and a continuous supply may be had thereafter indefinitely. As the willow sprouts readily from the stump, new settings do not have to be made to take the places of the trees cut out, and thus a little care of the grove will keep up a perpetual supply of posts for the farm, or furnish an annual income from the grove after it reaches a development sufficient to furnish marketable post timber.

It would be well for those farmers who are coming to believe in the wholesome doctrine that the best system of agriculture involves wise plans to make the farm produce as nearly as possible all the material its up-keep demands, to investigate the diamond willow as a post-producer.

There are no accurate data available as to the geographical limits of the cultivation of this tree. The matter has, in fact, never been given a thorough trial. Heavy plantings in regions far from its natural home are, therefore, not to be advised, without a preliminary try-out of a few. But, with that limitation understood, I now know of no other tree which has greater promise as a source of supply for fence-posts than the *salix cordata vestita.* M. G. RAMBO.



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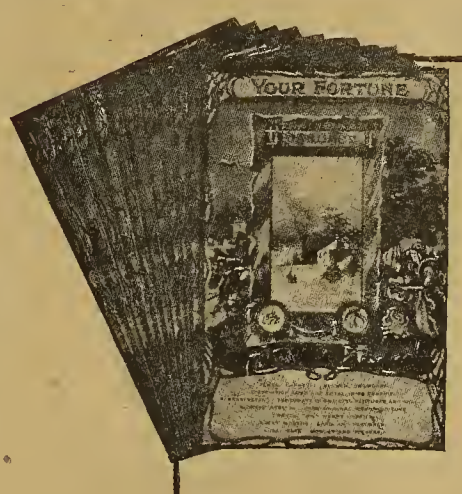

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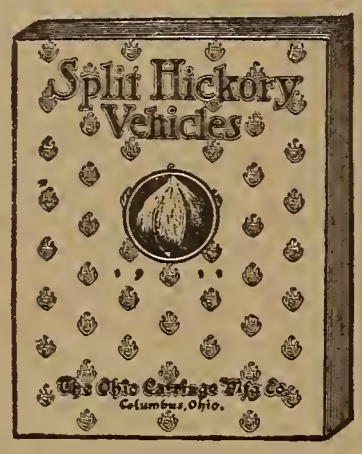

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Farm Notes

Farmers Try Out Concrete

MANY farmers here in Lawrence County, Illinois, are testing concrete as a building-material, not only in small buildings such as the fruit house shown in the second picture, but in the erection of dwelling-houses and barns of large size. The home of Mr. Cluxton, shown in the first illustration, has

A Concrete-Walled Home

walls, porches and floor of concrete, also interior finish of same. This house was put up at a moderate cost and is a very serviceable, strong, fine-looking building. Others are using concrete for foundations only, in block or brick, and sometimes in solid forms. When cemented together concrete blocks make better foundations than brick or stone. Skilled labor is not required to handle concrete and the material required for making it can often be found on the farm in the way of sand, gravel or rock.

Concrete fence-posts are giving good service on many farms in this region where the posts were reinforced with wire or steel

Fruit House Built for Keeps

rods. Where made with staple attachment for fastening the wire fence on to them, they are very handy when there is need of removing a fence.

The third picture shows the front of Mr. Parkinson's grounds, near Francisville, Lawrence County, showing a concrete retaining wall next the road. This fence has been standing for years and is a very fine-looking structure. It was made to hold the embankment when the public road was graded down. Cement mortar was used between blocks and the entire fence is practically one solid block of concrete.

In the building of public road bridges, concrete has given good service here. Wood,

A Handsome, Substantial Retaining Wall

of course, does not last long, under heavy service, and even steel bridges are expensive in up-keep. But the concrete bridge, when finished, is done for all time so far as repairing is concerned, if the foundation was properly put down. A large five-span bridge over a railroad cut, in this vicinity, was rebuilt of concrete after several wooden bridges had gone down like egg-shells under the heavy oil machinery and engines that used the road. They have been crossing the concrete bridge for three years and have not broken or marked it. The foundation of this bridge commenced on the rock eight feet below the surface of the cut.

Several local farmers are planning to run a factory for the making of concrete drain-tile, road-tile and brick. THOMAS M. CISEL.

A Rat-Killer

THE cheapest, best and safest way to rid the place of rats or mice is to mix two parts of coarse corn-meal and one part of plaster of Paris with a sprinkling of granulated sugar added for taste. Put this in cigar-boxes and place in their runs where it is dry. After the rats eat the plaster of Paris, it hardens in the stomach and this does the work. It is tough on the rat, but so is every other poison or killer.

Mice about the house can be easily kept in check by using this mixture For years past we have experienced no trouble from either.

J. H. HAYNES.

With the Editor

[CONTINUED FROM PAGE 2]

We stopped. I wasn't going to let Miss Field hold anything out on me. The school was the Kile school, and the teacher was Miss Eva Plank. It was the most up-to-date school in the way of primary methods I ever saw. The little tots went hippety-hopping to the classes and did the school stunts that only the prize classes of the prize Grade One and Grade Two teachers are supposed to do in the prize school systems. Miss Plank had enough interesting things to show us to have kept us all day. In fact, every recitation was a real performance. A reading class omitted their regular lesson and enacted for us a thing they had done the night before I got there at the institute. Each child was an ear of corn, and the "number" included parts of Whittier's corn song, portions of other corn poems and portions of verses Miss Plank had written. Corn again, do you see? And the best reading you'll hear in a day's journey. No, they aren't neglecting Readin' nor Ritin' nor 'Rithmetic in the Page County schools. They have ciphering matches and reading contests galore, as well as corn-judging and stock-judging and cookery and sewing

"Why were you scooting by that school?" I asked, when we were on the way again.

"Well," said she, looking guilty, "I didn't want you to think that all of our good schools were right around Clarinda and that I was showing you just the best ones!"

A New Spirit in the Old Schools

The fact is, there don't seem to be any best. Or rather, they all seem to be best. Miss Field was elected five years ago. Then they were just ordinary country schools. The children used to slink off and peer at her around corners, then, she says. The schoolhouses were shabby, dirty, poorly furnished. Miss Field has poured out all the wealth of a fine and loving nature on these schools. Now the children smile like a summer morn when she comes in at the door of the school, and the work of the class goes on more intensely than before, without a sign of embarrassment. As the little runabout goes flying across the country, every child smiles and waves its hand at Miss Field, every farmer's wife waves friendly greeting from the door—if she happens to be there—and no team ever seems to be so obstreperous at the auto's passing that the farmer or farmer's boy driving it cannot find occasion to give Miss Field a cheery greeting. Every child in Page County has at least two mothers and generally three—its "really, truly mother," its teacher and Miss Field. Miss Field is the universal mother of all the children in the county.

Now this has not been done by changing all the teachers—two thirds of them are the very same teachers who were in the just fair-to-middling schools of five years ago—and I'll venture to say that that's a greater percentage of five-year-old teachers than your county will show. The great thing about it is that they are the same teachers, in large measure, and that they use the old-fashioned one-room school-houses. But the difference lies in a change in spirit, coupled with a change in methods. The teaching combines mental training with manual training and domestic science—those sound like awfully hard things to put in a country school, but when a boy is brought to making a hay-rack by his school work, that's manual training, whether there's a work-bench in the school or not; when a girl is made skilful in making bread or hemming aprons, that is domestic science, whether there's a school kitchen or sewing-machine or not. Don't you see?

Applying School Life to Farm Life

They call it "correlation" in Page County—the correlation of school with life. At Mrs. Huftalen's school at Norwich I saw a young man—John Snyder—studying a text-book on agriculture, with a rack full of agricultural bulletins at his hand. He was writing an essay on raspberry culture—a mighty sight better thing than an essay on Genius or The Causes of the Civil War!

At the institute we heard a prize essay contest. The subject was "Why I Like to Live in Page County." The burden of them all was the good schools. The best teachers in the county are not in the city schools—which are many, and I have no doubt good—but in the country. The country teachers receive as high as sixty-five dollars a month, and perhaps more. Many of them could get positions in city schools, but they refuse to leave the country. And the country-school pupils are proud of their schools and feel rather sorry for the children who have to attend town schools—they are rather uppish and superior toward the towns.

Progress, kindness, gentleness, good morals, efficient farming, love for country life—these are the things that characterize the Page County rural schools. They are wonderful schools, now; but they will be much better in five years more. Then they will by that time have worked out a complete application of school life to farm life.

Once in a while there arises a great teacher who takes us back to the eternal principles of education, which we are ever straying from. Such a person was Pestalozzi, the Swiss. Another was Fröebel, the German. Another was Horace Mann, the Massachusetts lawyer and teacher. Another was Colonel Parker of Quincy, Massachusetts, and later of Illinois. Such a teacher is Jessie Field. She found the rural schools in need of change, and she is doing more to change them than one could have believed possible. After her, every teacher will be able to do the same thing everywhere—and to make such change is to achieve greatness.

The FARMERS' LOBBY.

By Judson C. Welliver

THE editor of FARM AND FIRESIDE has several times asked me to write a letter about myself and my political views. He wanted my readers, if such there be, to get my "point of view."

It would be useless to pretend that my reticence has been due to consideration for my readers. I have imposed enough on them in the past to give the lie to any pretense that their comfort made any difference to me. So this is where I tell about myself, because I must do it as a preliminary to telling why I think what I am going to say about this reciprocity arrangement of Mr. Taft and the Canadian government. If my views sound like treason, why, make the most of it. They aren't anybody else's views, and such as they are I am willing to defend against all middle-weight comers.

If I didn't explain my "point of view," a good many of you would likely think me no friend of the farmer. So I shall sit down and tell you all about it.

I was born in Illinois. My father never voted any but the Republican ticket, beginning with Fremont. He started a private and emerged a captain at the end of the Civil War, and I'm prouder of him than of anything else that ever happened to me, except my mother, my wife and babies. Raised a black Republican, I never voted a straight ticket, and have voted for just about equal numbers of Democrats and Republicans. Have small use for parties; out in Iowa, where I have mostly lived, Democrats said I was a Republican, Republicans insisted I was a Democrat. They were both wrong. I thought I was a mugwump till the term "insurgent" got broad enough to indicate people from all parties, and since then I have considered myself an insurgent.

Does Protection Protect Farmers?

WHEN I was twenty I just naturally knew that the protective policy made the world, hung up the moon and burnished the stars for that twinkle you may have noticed about them. Like many other things that one knows all about at twenty, I know now that I don't know much of anything about it, except that I have changed my mind. Trusts selling things abroad cheaper than at home acquired the Angora of my tariff confidence.

Now, please don't start a lynching party. Don't write to the editor and stop the paper. Don't get excited about it. But the fact is that I don't believe protection of agricultural products has ever been worth a tinker's—

Pardon an interpolation. The smallest coin minted in the world, in value, is made in India. It is called a dahm. It is worth a very small fraction of a cent.

Anyhow, as I was saying, I don't honestly believe that protection of the agricultural products has ever been worth a tinker's dahm to the farmer. It couldn't be worth anything to him, so long as we were a great exporting nation. We have been, and still are, such. The time is at hand when we are not going to export so much. When that time comes, protection is going to mean something to the farmer. But does he need it?

The Tariff as a Condition Powder for Millionaires

To go back to my autobiography at this point. I am a farmer. I have more concern about the price of wheat than about the price of articles. I live on a farm and live by it. I have owned and sold two good Iowa farms, and when I came East to live, got one in the best county in Maryland—Montgomery. I think I know the farmer's point of view of this thing. And I say to you farmer friends that protection of your products never did you any good, in my honest belief, except as it helped make a home market, the value of which was mighty problematical in view of the fact that the exported surplus mainly decided the prices in the home market.

But let us see what protection did to the market in which we have to buy. Reasonable protection—the protection which Alexander Hamilton had in mind in his Report on Manufactures—I believe in. It was the protection which the Republican platform of 1908 promised: A measure of the difference between the cost of production at home and abroad. We have never had a tariff that was based on that plan. Every successive tariff in recent years has taken us farther from it. Protection enabled the manufacturer to charge us more for what he made than he could have charged under free trade. Well, I don't object to that. As a farmer, I prefer to buy from an American, employing Americans, at a little higher price, than to buy from a German or an Englishman, paying my money to German or English workmen. But follow it out:

The era of combinations came. The trusts were formed. We found ourselves paying high prices, not in order that the American working-man might get good wages, but in order that the people who had issued fictitious capitalization against the property might get dividends on it. We found ourselves growing a crop of millionaires, of multi-millionaires, and talking of billionaires. These people—the Havemeyers, the Carnegies, the Flints, the Woodses, the McCormicks and a long line of them—made their millions out of the privilege which protection gave them, to charge us more than a reasonable price—a price that represented the difference between cost of production at home and abroad.

Convinced of this, I decided long ago that protection was overdone. I had already decided that it didn't do the farmer any good, though to this day I believe the farmer sincerely thinks he gets as much out of protection as anybody, if not more. The tariff revision of 1909 convinced me that the tariff was full of graft—just plain indecent graft.

Now comes President Taft with his reciprocity plan. In substance, he proposes to let in Canada's agricultural products free and to get Canada to take our steel-trust products free or at much lower rates. He proposes to let cattle into this country free, but to charge duties on beef. That is, he lets in competition for the farmer, but not for the beef trust.

Go all through the scheme and you will find it full of just such things as that. Why should the farmer have his protection taken away from him, while the beef trust is continued in its privilege of charging as much for dressed meats as it can get hungry people to pay?

I think this arrangement with Canada is one of the worst and most jug-handled affairs I ever saw. The manufacturer gets the Canadian market—and the farmer pays for it. It is enough to make a self-respecting farmer swear right in the middle of prayer-meeting. But—

Let's Try Our Hand at Prophecy

IN SPITE of all that, I am in favor of the arrangement. I hope it will be ratified. I think if it were ratified to-morrow, it would make my corn and hogs worth a little less; I am pretty sure it would hurt my next year's crop of wheat a trifle. But I am for it, and I think every other farmer ought to be. Here's the reason:

The benefit the farmer gets from protection has always been mainly a myth. It is a superstition. Take it away from him, and I give you my word I don't believe he will know the difference. For sentimental reasons, it might slightly affect prices of a few staples for a short time, merely because everybody expected them to be affected—not for any other. But in the course of three years, or two, while things were adjusting to the new condition, it would not make a bit of difference to the farmer.

Go along with my reasoning now, even if you don't agree with me, and see where we come out. Suppose I am right, and the farmer was not hurt by the reciprocity arrangement. What next?

As sure as you are ten inches tall, the farmer, discovering that removal of his protection had not hurt him, would get to wondering why other people needed all this protection. He would wonder if the steel trust really needed all it enjoys. He would look into the sugar combination, the woolen goods trust, the lead trust, the coal trust and some hundreds of others, and he would reason about thus:

"They took all my protection away from me, and it didn't make any difference. These trusts seem to be the people that get the real benefits of it. They must, because they sell their goods cheaper abroad than here. Why not take their protection off, and let them sell as cheap here as anywhere. That'll make things cheaper for me, and I seem to be their best customer."

Whereupon the tariff would be revised, and this time it would be a real downward revision. It would mean something. The tariff does protect a long list of trusts; but it doesn't protect the farmer. It does make the prices higher on what the farmer buys, but it doesn't make them higher on what he sells. Therefore, the farmer ought to be for this Canadian reciprocity treaty because it is the entering wedge toward a real revision of the schedules that concern the farmer in his capacity as buyer and consumer.

That is why I favor the Canadian reciprocity treaty. I think it is an outrage on the agricultural interests. Either it will hurt the farmer to have his protection taken off, or else the Republican party has been lying to him all these decades when it told him it would. Is that plain? Well, it is my opinion that the Republican party has been lying.

Most of the people who did the lying were not conscious of it. They honestly thought it was good for the farmer to sell in a free market and buy in a closed one. There were people up at the top—the people who got the fine, big swag out of it—who didn't believe anything of the kind. But most Republicans honestly believed it. I did, till recent years.

It is time for a lot of people to admit that they may have been mistaken. Nobody needs to inquire about the whole matter more carefully than the farmer who has been a life-long protectionist.

A Step Toward Real Tariff Revision

LET me explain my idea about the practical politics of this reciprocity situation and I am done. First, I believe that it has precipitated the tariff question into an entirely new phase in this country. We are nearing the end of the superstition that the tariff made the earth and the fullness thereof. I shall not overstate it if I say that I expect this Canadian reciprocity proposal of Taft's to make a bigger splash in history than anything Theodore Roosevelt did. Don't think that means I think Taft is as big a man as Roosevelt, though, for I don't—not by a long way.

If this Canadian pact is ratified, it will be done largely by the votes of the South and the industrial sections. Broadly, a combination of East and South will do it.

Suppose the combination is made, and does it. What then? Why, naturally, the next thing will be for the South and West to snuggle up together. They will discuss it about thus:

MISS SOUTH—"I notice you aren't wearing that lovely protection plume this season?"

MISS WEST—"No; you and that snuppy Miss East seem to have got it away from me."

MISS SOUTH—"Land sake, dear, I never had a plume like that in all my born days. I see Miss East wearing it every time she goes out. Why shouldn't we join together and take it away from her?"

And so West and South would in turn join together and take the protection privilege away from the big Eastern interests that have so long enjoyed it. That is, they would take the excesses of it away. There would be honest revision; the graft would be taken out.

Free Trade the Logical Conclusion? No

THERE is, in my opinion, the inevitable result. If the South, plus the industrials, put through this reciprocity treaty, then, at the next step, the West plus the South will take away the excesses of protection to manufacturing.

This is not a free-trade country and there is no reason for suspecting that revision of the tariff into some approximation to justice and fairness will even menace the country with free trade. In truth, it will save the country from the danger of free trade. The excesses of protection have done it more harm in recent years than the benefits of it have done good.

Just another word. Washington believed that President Taft negotiated this treaty in the form it is—taking everything from the farmer and giving nothing to him—in order to "put in a hole" the mid-Western insurgents. I rather think so myself. I think he has put them in, too. They have been asking for tariff reduction; now he offers it to them.

Of course, it is very unfair. The farmer has been asking a square deal, a reasonable downward revision. He gets all the downwardness of it, and the manufacturers get all the benefits; he pays for opening Canada's markets to the manufacturer's wares. Every insurgent would be justified in opposing the treaty, because of its manifest unfairness. Most of them will oppose it. Well, I am just as good an insurgent as any of them, and have been one longer than most of them; and I think they ought to vote to ratify it. That's the difference. Most of the farmers will doubtless disagree with me; most of my political friends will; but I started to write what I believed, and there it is.

POOR RELATIONS

By Adelaide Stedman

Author of "Miracle," "Intellectual Miss Clarendon," Etc.

Illustrated by Herman Pfeifer

Part VII.—Chapter XIX.

AT FIVE o'clock, just as Marion was in the midst of her tilt with Fred, Mr. Hastings, nervous and irritated, was ushered into the Martin's library. The place appeared strangely different. All the familiar furnishings seemed to have lost their air of comfort. Could it have been in this same room that he had proposed to Penelope two months before? He fidgeted from one chair to another, then stood clasping and unclasping his hands. A big old grandfather's clock suddenly boomed out the hour, before continuing its throaty ticking. A line from an old poem of Longfellow's began keeping time with it in his brain. "Forever never! Never forever. Forever never. Never forever."

Twenty minutes went by. His nervousness was almost beyond control. For instance, suppose Penelope had changed her mind, or she regretted their quarrel and her foolish conduct with the count. Would he be in honor bound again? Surely he had no right to be harsh, for he had only kept his engagement vows in the letter and not in the spirit. He began pacing up and down the room with swift mechanical insistence, an army of doubts assailing him at every step.

Meanwhile, up-stairs in the sunlit living-room, Penelope was announcing her latest decision.

When she had finished, Mrs. Martin exclaimed angrily: "My dear, you don't know what you are saying. Not marry John Hastings! Why you're letting pass the opportunity of a lifetime!"

"Oh, no!" Penelope's smile of natural mockery touched her lips. "I am only getting off with the old so as to get on with the new, the infinitely to be preferred new."

"What do you mean?" The lady's voice was a mixture of displeasure and eagerness.

"I mean," the girl rose and leaned her lithe body against the back of a chair, "I mean that Comte George de Feronac is on his knees to me, imploring me to become his wife!" She laughed indulgently as her mother's face lit up.

"But, Pen," Mrs. Martin cried, coming to her daughter's side, "I thought you loved Jack! I—why, my dear, I want you to be happy, but I confess I should love to see you a countess. Think of it!" Her eyes glittered.

Penelope's face hardened. "I will be happy," she murmured. "I must be happy. Of course, when I go to France father will give me my weight in gold; but it would have been a great deal more if George had not felt that his suit was almost hopeless—and I will be Madame la Comtesse! Do you hear?" Suddenly her manner grew intense. "I will be away from this awful social game. I will know who I am always. I'm sick and tired of fighting and fighting for recognition in this snob democracy. There are no real classes here. People move up and down the social checker-board so fast that one scarcely knows who is who from one day to the next.

"Nobody dares do anything revolutionary or even interesting—because nobody has a sufficiently firm standing.

"I want something definite—something staple. I want to get away from the constant reminders of our fight! I want to get away from—poor relations!

"Why, the other night when I saw Marion at the ball in her shabby suit and heavy boots and gloves I shivered. Think how close we were to a scene—and social ostracism! Even as John Hastings' wife I would have to tremble continually. Who knows what each day might bring forth? So I am going to buy something tangible with our money. I am going to buy a title and unassailable position, and I'll be happy!" She laughed breathlessly. "It will be paradise."

Mrs. Martin stood listening, disturbed and hesitant.

"My dear," she faltered at last. "You are quite right. I know how clever you are. But—well—you always call me old-fashioned and perhaps I am. What about the count? Do you love him, Penelope? Tell me, dear."

"Love him!" Penelope's voice was scornful. "I don't know, I'm sure. There are too many other things to consider." A dry sob shook her. "I haven't been trained to fall in love."

She paused for an instant to control herself, then went on. "Old-fashioned mother. You are—to a point! Beyond that you are just like I am—exactly. You conform to sentiment just as long as it doesn't interfere with anything else, and not a minute longer."

Mrs. Martin started to speak, but the girl went on impulsively.

"Listen! Once a young man came to this house, a fascinating, fascinating young man. We had a little talk. I—I was drawn to him almost irresistibly—wonderfully! I think I would have loved him before long."

"Well, why didn't you?" the older woman asked.

"Because," her daughter's voice was exquisitely sarcastic, "because he was a florist's assistant, here decorating for a tea."

Mrs. Martin exclaimed in protest, "I wouldn't be surprised if he were the man who stole my jewels!"

"You see," the girl cried, "how romantic you are! How old-fashioned about love—I only saw him that once, but I've thought of him often. I know I could have loved him. But I could not have married him. Could I? No! Then why talk about romance and love and—democracy? We can't have them. None of us." She stopped abruptly, while her mother stared at her speechless.

In a moment the girl recovered herself and walked quietly to the door. Then she paused and said: "I didn't tell you, but Jack has been down-stairs—waiting, all this time. I am going now, to break with him."

"Poor boy!" Mrs. Martin sighed weakly.

"Oh, you needn't pity him," Penelope flared. "I think he is glad, too." She laughed, her voice high and strained, then added flippantly, "So you see everybody is happy."

A moment later she entered the library, her head high, her eyes brilliant, her lips smiling.

"Jack," she murmured, with mock tragedy, "the hour has come!" Then her tantalizing laugh rang out, while her clear eyes were alert to catch the man's expressions as they passed.

"Penelope," he rose and faced her, "I can't be a hypocrite! I think it's better for both of us—this decision of yours. Let us both be thankful that our discovery of incompatibility didn't come—too late."

The girl drew a flashing ring from her finger and held it toward him. "I have worn it just three times," she smiled, "the night you gave it to me, one other night to please someone," her eyes sparkled, "and to-night! I think the third time was the lucky one, don't you?"

The man stared at her, nonplussed. "How could we ever have been so blind?" he answered.

Penelope flushed. His frankness was not altogether pleasing.

"You once told me I could fascinate the Sphinx," she mused. "But then, everything is comparative. I suppose we realize how different our feeling for each other is from the feeling each has—for someone else! I know it is so with me!"

She watched him keenly and saw the slow red mount to his cheeks.

"Oh," she mocked, hiding her very genuine surprise. "I spoke an accidental truth, did I? So I am not the only one whom an engagement did not blind to another's charms!"

Hastings seemed to have difficulty in speaking, so she went on. "Tell me, am I correct?"

"Yes," he muttered. "You have a right to know. But I have not told—the other young lady—that I care. I was bound to you. It worried me all the time. I didn't see any way out of the tangle. I wouldn't tell you this, only I know now you don't mind." His manner was troubled.

"I—indeed not!" The girl laughed, too proud to ask her rival's name. "We'll dance at each other's weddings, won't we, Jack? But now, I really must ask you to excuse me. The Comte de Feronac will be here presently, and a meeting might be—awkward. Sometimes you are very fierce, Jack." She paused, then added, "Go to see my father to-morrow morning. I am going to allow you to announce our decision to him."

He rose instantly, with a straightening of the shoulders and a sigh of relief, which hurt Penelope—hurt her pride—her sense of power.

"Good-by," he held out his hand and added with real feeling, "I hope you will be very happy."

"Perfectly, thank you. Two months ago, who would have thought I could have been without you?"

The man left the room; she listened until the thud of the outer door closing announced his exit. Then tremulously she threw herself into a chair and closed her eyes spasmodically. Slowly from beneath the white lids large hot tears coursed down her cheeks. The good in Penelope always fought for mastery, but it never won; only crystallized into the salt bitterness of tears.

At half-past six as Mrs. Martin, her daughter and the count still held sway in the library, Mr. Martin settled himself in his study for a quiet half hour before his wife disturbed him.

However, hardly had he straightened out his evening papers before a knock sounded at the door.

"Come in," he growled, his manner anything but an invitation.

Fred popped his head inside the door. "Are you in a good humor, governor?" he questioned jauntily.

"Um—" Mr. Martin ejaculated. "That's up to you. What's the matter now?" His face softened a little, only to harden again as Fred answered cheerfully:

"Money!"

"Money," his father protested. "Oh, no. See here, young son, I'm going to call a halt on you. Take a look at yourself in that glass. I suppose you spent enough on that awful outfit of yours to equip a suite of offices."

The boy touched the black pearl in his tie guiltily. "Well," he responded sullenly, "what's the money good for?"

Mr. Martin looked at his son queerly. He had indulged him in everything. Suddenly to-night for the first time he seemed to see the results of such training, as he looked at the face before him, pale, heavy-eyed, weak.

"Boy," he finally announced, "you are going to work. If you get any more money, you are going to earn it. I've got a pile of bills here, ten thousand dollars' worth—all for you—in ten months." He tapped his muscular hand on the table, as his son subsided into a seat, then went on, "I'll pay these, they're the result of my old policy—but this is the end!

"To-morrow, you look for a job, not with me. Whatever you earn you can spend, for you can live at home. That will help you!"

The boy gasped. "I say, governor," he protested, "I'm too tired to joke. Just give me two thousand dollars, and I won't bother you for a while." He yawned and stretched himself sprawling over the chair.

The older man watched him for a minute with growing anger. From his silk socks to his neatly parted and perfumed hair, the boy suddenly irritated him.

"Stand up, sir!" he commanded at last, "and have some respect. You young puppy! Two thousand dollars—you won't get two thousand cents from me. I worked for what I've got. I thought I'd spare you; but looking over the items on these bills has changed my mind. Flowers, jewelry, taxi-cabs—late suppers. I've been a fool, and I've made a blame fool out of you; but I change my tactics right here!" He brought his fist down on the table with a bang.

Fred stood up grumbling. He was used to his father's occasional bursts of rage.

"All right, I'll go to work," he laughed, looking lovingly at his manicured nails. "Just give me the two thousand this once. The need is pressing—urgent."

"What for?" Mr. Martin demanded.

"Can't tell you. Sorry."

"Then you won't get it."

"Now, governor, be reasonable. A fellow can't tell everything. I will tell you that it will be put to the best use I have ever made of money in my life. Honest. I was surprised at myself for—offering it."

"Well, you can take back your offer, because you are not going to get a penny. I said 'No,' and I'm going to stick to it. I'll make a man of you yet. Stand straight, don't look more stupid than you can help."

Fred flushed angrily and stared hard at his father.

"I simply must have it, governor," he growled.

[CONTINUED ON PAGE 25]

"'Stand up, sir!' he commanded, 'and have some respect'"

STARTING SEEDS IN THE HOUSE

By Ida D. Bennett

UNLESS one possesses the convenience of a hotbed or a greenhouse, the starting of the seeds of tender annuals and greenhouse plants in the house becomes the only practical solution of the process of growing this class of plants from seed; and that they shall be grown from seed rather than purchased direct from the florist becomes not only a matter of dollars and cents but, to the lover of flowers, a matter of absorbing interest. Not only is it possible to secure in this way an unlimited supply of choice things at a nominal cost, but it is also a fact that plants raised from seed are generally better plants than plants grown from cuttings and are likely to give a more satisfactory fullness of bloom.

It is, however, useless to start a quantity of seeds into growth unless one has enthusiasm sufficient to carry them through the process of germination, transplanting and potting and repotting until, in time, the seedling has become a complete plant, perfect in leafage and flower.

It is the most common thing in the world for one, in the flush of springtime enthusiasm for out-of-door things, to buy lavishly of seeds of various things and to spend a morning or two over pans of moist earth, planting seeds that as soon as the novelty wears off will be neglected and, at some not-far-distant day, be found occupying a neglected corner of the porch, dry and dead. So one should only undertake the growing of those things for which one has use and room and the enthusiasm to carry forward to completion.

The process of starting seeds in the house is exceedingly simple and the equipment required of the plainest; a number of small, shallow boxes, known as "flats," which may be fashioned from the half-size discarded cigar boxes or made from pieces of thin wood of any size desired, but not over three inches in depth. A long, narrow box of a size to sit safely on a window-sill about three inches high in front and six in the back and provided with a hinged lid of glass will give room for a number of plants and may be easily fashioned.

If it is desired to start a number of varieties of seed then the box may be divided, by means of narrow strips of wood, into as many divisions as desired.

Both these window boxes and the small cigar-box flats must have a number of holes bored in the bottom for drainage and these should be covered with bits of glass to prevent the earth clogging them.

The best soil for the purpose is a good compost of fibrous loam, leaf mold and sharp sand. This should be run through a coal sieve for the seeds of common annuals like pansies and asters, but in the case of greenhouse plants with fine seed the use of a flour sieve will be necessary. The soil should be quite free from insect life and just moist enough to hold together when pressed firmly in the hand.

The boxes should be filled to within from one fourth of an inch to a full inch from the top according to size.

Seeds vary greatly in size and must be sown accordingly. Seeds of pansies and asters may be sown in shallow drills, about an eighth of an inch in depth, scattered as evenly and thinly as possible. The displaced earth should be drawn back over them and pressed down firmly with the hand or a piece of board. But the seeds of many greenhouse plants and some annuals are far too small to be covered in this way, but must be sown directly on the surface of the soil and merely pressed into the soil. Seeds of the begonia, gloxinia, cineraria and the like appear like fine dust and are merely scattered on the surface of the soil. When these seeds germinate one can only see the little plants by holding the box between one and the light at a level with the eye. Seeds which need light covering may be sown on the surface of the soil and pressed down and then be lightly covered with fine earth or clean sand sifted carefully over them with a sieve.

After the seeds are sown and covered and pressed down into the soil, the flats should be placed in a shallow pan of tepid water for a few moments, or until the soil looks moist, not wet, on top. The surplus water should then be drained off by tipping the box on one corner and allowing the water to drain away through the bottom. A sheet of white paper should then be placed over the box and the whole covered with glass and placed where a uniform temperature can be maintained. Sudden changes of temperature, allowing the earth to get dry or too great an amount of moisture, retard germination. Most failures in growing plants from seed result in poor management of the seed flats or beds. Then the unfortunate seedsman comes in for a scoring. If, when the glass is lifted to examine the flats, drops of moisture are found on the glass or paper, then conditions are too damp and the glass should be lifted a short time to allow the soil to dry out a little.

As soon as the plants appear the glass should be raised a trifle to allow the young plants air and light and the paper may be removed from over the flats and placed between the box and the window glass to temper somewhat at this stage of the plant growth what would prove too strong a light. Most house-grown plants should have one or two pairs of leaves before they are strong enough to stand full sunshine and at first should only be exposed to the morning sun. Asters are benefited by two or more transplantings, as it induces a generous root development essential in standing the rough, outdoor life. Plants of tender greenhouse class should be pricked out into tiny thumb pots as soon as they are large enough to handle and the pots placed in pans or trays of damp sand. Sun-loving plants, such as geraniums, heliotropes and carnations, may be placed in a south window until warm enough to place in a sand box in the open air, while more tender, shade-loving plants may be given an east or north window. In potting plants use for the first pottings the same soil in which the seed was started and always place a bit of broken crock or glass over the drainage hole to keep the roots inside the pot, otherwise they will strike straight through into the sand. Shift the plants into pots one size larger as fast as the pots they are in fill with roots.

House plants grown from seed are nearly always superior to those grown from cuttings and one usually secures some new varieties—for it must be remembered that nearly all new varieties of flowers are hybrids produced by seed selection and in growing a quantity of seedlings one should never make the mistake of selecting out the strongest appearing plants as the smaller and weaker appearing plants are quite apt to be the choicer; especially is this true in growing the fine, large-flowered petunias.

Outdoor or bedding plants which may be profitably started in the house are the aster, balsam, ageratum, canna, coleus, dahlias, lobelias, lantanas, pansies, salvias, petunias, verbenas, Japanese morning-glories, stock, wall-flowers, candytuft and the like.

Quite as good dahlias can be raised from seed and seedling cannas come into bloom almost as quickly from seed as from roots. In starting cannas from seed the shell should always be filed sufficiently to show the white and the seed soaked in quite warm water overnight; treated in this way the seed will germinate in three days and February or March planted seed come into bloom in June. Seed of Japanese morning-glories should be soaked overnight in quite warm water and not planted out in the open ground until the nights and soil are warm. Moon-flower seed also need the preliminary filing and soaking and verbena seed germinate earlier if well soaked in warm water before planting.

Seeds which germinate in from three to five days: Aster, ageratum, canna, salvia, stock; in from five to seven days, coleus, dahlia, lobelia; in from eight to ten days, pansies, verbenas (when not soaked).

House plants which germinate in from five to seven days: Carnations, cinerarias, geraniums, pelargoniums; in from eight to ten days, Abutilons, begonias in variety, Calceolarias; in from twelve to fifteen days, lantanas, petunias; in from fifteen to twenty days, heliotrope, Asparagus Sprengeri.

Poor Relations

[CONTINUED FROM PAGE 24]

"You'll not get it." The obstinate streak in Mr. Martin was asserting itself. "Not unless you tell me what for—"

"I can't tell you, I say!" Fred knew how more than useless it would be to appeal to his father on Marion's behalf. Still he had offered something to a pretty girl, and according to his code "he must make good." He knew she wouldn't take it, but he intended to send it to her publishers with some sort of an explanatory letter. Now it seemed as if once when he was trying, in his own words, "to do a decent thing" difficulties were thrown in his way.

"I want that money, dad," he repeated.

"Then get it!" His father was stubborn.

"All right, I will," Fred flared. "I will, one way or another, and you can take the consequences. You say you brought me up like a fool. That was not my fault. Now I'm going to get that money, believe me."

He glared at his father a moment, then lurched out of the room, slamming the door.

Chapter XX.

WHILE Marion was plodding through her daily routine, Penelope had finished Mr. Shreve's house. Inside and out she had re-made the old mansion, until even Mrs. Bellamy admitted that it was improved. The girl finished her work regretfully, for she had put her whole heart into it. Mr. Shreve was just due to arrive from Europe, and she had hurried all hands so that everything might be in place on his return.

Finally the last touches had been put on, and she stood on the broad veranda, saying good-by to Mrs. Bellamy. The autumn wind was blowing and occasionally a brilliant leaf would fly against their gowns or faces as they talked.

"Good-by, my dear," the little old lady said at last. "I know Mr. Shreve will be delighted with the house, and as for me, well, I thought I never would admit it, but I feel at home and on friendly terms with the furniture already." She laughed softly; then something in Penelope's quiet grave eyes caused her to draw down the girl's face tenderly and kiss one soft white cheek. "I shall miss you, dear," she murmured. "It has been good to have someone young about. You will come and see me occasionally, won't you?"

"Indeed, indeed I will," Penelope answered heartily, pressing Mrs. Bellamy's small wrinkled hands in her young warm ones. Suddenly she choked a little. "I hope Mr. Shreve will be pleased," she faltered, "but I'm not sure."

"Why, Miss Penelope!" Mrs. Bellamy remonstrated. "I wish he were here to speak for himself, but I know he will be delighted."

"Thank you for saying so—and—good-by." With one more pressure of the hands the girl hurried into the high cart, and in a moment the horse was trotting toward the station.

Dim clouds scudded overhead, the air was still and heavy with coming rain; the whole countryside seemed bleak and forbidding, a chilling landscape of cold grays and whites and greens.

In fifteen minutes the little depot was reached; Penelope dismissed the driver and bought her ticket, then stood drearily waiting for the incoming train, depressed and down-hearted. The mystery of Mr. Shreve's abrupt departure was in her mind continually. She had only four minutes to wait before the black locomotive raced into view and came rumbling along the home tracks. A few people got off, and suddenly Penelope stared unbelieving, for, suit-case in one hand and satchel in the other, out stepped Mr. Shreve.

"Why!" she gasped, and the gentleman, turning around, saw her.

"Miss Martin!" he cried, a blending of embarrassment and pleasure in his voice. "I am so glad to see you."

"Welcome home," she responded in her soft voice, which trembled a little with strange excitement, while her cheeks were carnation red. "Aren't you unexpected?"

"Yes," he agreed. "We didn't expect to dock until to-morrow, but we made record time. I thought I would come out and surprise Mrs. Bellamy. I confess, though," his eyes rested somberly on her face, "it was a rather lonely home-coming."

"I should think so," she exclaimed with quick sympathy, "but Mrs. Bellamy has a beaming greeting in store for you, so I must not detain you."

"Oh, not at all," he hesitated in evident confusion, then queried lamely, "How is the house getting along?"

"It is finished," she replied quietly. "I just used my best judgment, as you requested. I hope you will be pleased."

"George," he responded, "I don't see how I can help being—but—" he frowned and half turned away.

"Well, I must be going," she broke in, "the train will be leaving presently. Just write me if you desire any changes."

"Yes, thank you, thank you." The man was evidently struggling with a desire to say something, and finally, just as the girl was about to turn away, he muttered, "Er—Miss Martin, I suppose—no doubt—I may offer you my congratulations by this time. I—I was privy to the secret of your engagement."

"My engagement?" Penelope echoed in astonishment.

"Why yes—yes. I wish you all happiness." His voice was gruff with feeling.

"There must be some mistake," the girl faltered, "I am not—"

"My dear Miss Martin, you are not engaged to Mr. Hastings?" he exclaimed incredulously. "Why, I—"

"To Mr. Hastings," she wondered, "oh—now I see. You—"

"I am sure I beg your pardon if my words are an intrusion—" he interrupted.

"Oh, no! I am not engaged to him. It is my cousin, Miss Penelope Martin!"

"Your cousin, Penelope Martin! The same name!" he marveled. "Oh, what an idiot I have been. George, I'm glad." He grasped her hand enthusiastically, his face alight with joy as he laughed. "That's the best news I have heard in months!"

"Why, Mr. Shreve," she gasped, trying to withdraw her hand.

For a moment he seemed recalled to himself and his face grew as scarlet as the geraniums which bloomed sparsely about them. Then his eyes grew radiant again, and the words came pouring out. "I am so happy—because don't you know I love you, Penelope? I think I loved you the first day you came here. I meant to tell you so a month ago, when Hastings informed me that he was engaged to a Miss Penelope Martin. Of course, I thought it was you, so I went away. I didn't want to see you working at the rooms I had dreamed you would occupy. But now—oh, my darling!" His voice had all the ardor of twenty-one. "Now—have I a chance? Tell me, Penelope! Have I a chance?"

The girl's face was illumined. For a second she stood silent, as her train flashed out of the station, then the glory of her smile was an answer, even before she whispered, "You have more than a chance—because I have been as wretched as you!" Suddenly she remembered her surroundings and added shocked, "Arnold, we are in a public place. Please don't look so happy."

"I can't help it," he exulted. "Penelope, Penelope, is it true?" Again the girl's expression was an adequate reply, so he went on enthusiastically. "I'll tell you what we'll do. Come home with me and see Mrs. Bellamy, and then we will go to New York to tell your sister the good news. Do you like the plan?"

She nodded assent, and in a moment they were speeding back over the familiar road.

"Arnold," she murmured, as his arm stole about her waist, "I believe you are just a boy after all."

"My dear," his answer was conclusive, "I am forty and I have been married, but this is my first real romance."

By seven o'clock the couple were at the hotel telling Marion of their engagement.

For a half hour they questioned one another incessantly, then Penelope exclaimed smilingly, "I don't want to spend the happiest evening of my life in these hideous rooms. I hate them."

"Let us go out for dinner," Mr. Shreve suggested instantly. "Where shall it be?"

"Any place where there are soft colors and flowers and shaded lights."

Immediately the girls donned hats and coats, and in a few minutes the little party was in a taxi-cab hurrying down Broadway.

Scarcely had the three left the hotel before Mr. Hastings entered it, eagerly inquiring for Marion.

"Miss Martin has just gone out," the clerk at the desk informed him. "Is there any message?"

He hesitated, bitterly disappointed. Now that he was free, he must see Marion.

"No, there is no message," he decided at last, and left gloomily. It was an odd freak of fate that kept the two apart that night, for it led to consequent happenings which a few words spoken beween them would certainly have avoided.

That night after Penelope was asleep Marion wept softly. Her sister's happiness left her own heart very sore. Why had her romance come too late? Vainly, she tried to shut out unpleasant thoughts, but throughout the long dark hours she laid awake in one of the night watches of love. [TO BE CONTINUED]

Your Last Chance

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WHAT I DID WITH IT

The Profitable Conversion of Barren Land

By May Ellis

WHEN I went back to the farm after several years' absence in the city, it looked good to me at first, just as it was. The uneven grass in the dooryard all mixed with dandelions was a pleasant variety after the carefully tended city lawns. Neglected fence-corners, crowded with wild flowers and ferns, were more beautiful than the carefully careless "wild-flower" beds in the parks. But after a little, though I still enjoyed the beauty of it, there was an impression of neglect and disorder which jarred upon one who was a farmer's daughter and meant to be a good farmer herself. And yet what could be done? Help was too hard to find and too expensive, to be employed for the mere look of things, unless a profit was to come out of it. So I spent some time in reflection, particularly concerning one of the worst places, which was only a few steps from the house. Fortunately, it was at the rear and on a lower level so that it did not obtrude upon our view from the windows.

In the first place, there was an old building which had been used for all sorts of purposes and was now only filled with stored-away rubbish. It was about sixteen feet square and had a loft overhead. The uselessness of it was impressed upon my mind, for in the city, space and shelter were dear and generally utilized to their utmost extent; while in the country there seemed to be always ancient buildings here and there near a farm-house with a purposeless and decaying air about them. Beyond this was a steep side-hill, curving like a section of a Roman amphitheater, with a bit of swamp at the foot and beyond that a small pond. In my childhood these steep banks used to be cultivated like any other respectable field; mowed, and the grass drawn out by a certain wise old horse who, knowing well her own weight and the danger of sinking, would never venture upon the swampy spot at the bottom, but who was skilful in getting up the ascent by a winding route like that of a railroad climbing a mountain. But once she made a miscalculation—or more probably her driver did—the wagon went over and she with it. There was much shouting and we all ran to the scene of disaster in great excitement, only to find that our beloved horse, though unable to rise from her rather uncomfortable position until the harness could be cut, was reaching out philosophically for a convenient bite of hay.

Afterward that field was used as a calf-pasture. A certain white calf inhabited it one year, I remember, and was greatly beloved by a very small boy visitor of ours. They rivaled each other in running and indulging in apparently aimless and superfluous antics. But when the small boy came next year the calf was gone. That was the first lesson in the bitterness of the changes wrought by time, for the large and uninteresting animal pointed out to him in the cow-pasture was as disappointing as Dickens' Flora was to her youthful lover. But the supply of calves seemed to cease, and the field had been left to go back to a wilderness—a beautiful wilderness, to be sure, in its way. There was an apple-tree good for nothing but blossoms, a quantity of tangled blackberry and raspberry bushes, clumps of elderberry and dogwood, ferns, cowslips, meadow-rue and flowering grasses, goldenrod and purple asters, so that the place was hardly ever without flowers of one kind or another. The dam, which used to be at the lower end of the pond, had broken away and the water was low. Then somewhere near the foot of the hill there was a mineral spring which tasted strongly of iron and sulphur, which used to gush out in a big clear stream, and some of our neighbors often filled jugs there and counted it an excellent medicine. This had been choked up somehow through plowing off the bank, after the old neighbors died and we had become forgetful of it. Indeed, the whole spot looked forgotten and even the fence was dejectedly falling down the hill. What could be done with it? I asked my friends and they suggested many things.

Jeannette, who is a neat, stylish little person, was sure that an Angora goat, or perhaps more than one, might be turned in to eat up everything in the place. At the same time he would yield a pleasing article for trimming my small nieces' coats. It certainly seemed cheaper and more picturesque to have the clearing done by goat-power than to hire a man. But, I suggested, would it not necessitate a high fence? For the railroad runs dangerously near, and I remember a small pig, or piglet, for he was very little, who escaped as by a miracle from his pen and sacrificed himself before the engine. The goat might do likewise; but if he did not, what should I do with him when the place was cleared? I am a tall person and should not look well riding in a goat-wagon. No, it would not do.

Johann, my boy neighbor, advised putting the whole side-hill into berry-bushes. The wild ones did well, as he pointed out, and naturally tame ones would flourish.

The young minister was much impressed when I told him about the mineral spring and nearly persuaded me there was a fortune in it. When he called soon afterward I was sitting out there among the asters and goldenrod resting after ineffective labors with the hoe. My dress was short, my shoes were muddy and my hair was about to tumble down. Jeannette would have been horrified; but, of course, it is wrong to consider that a minister's thoughts are upon no higher things than these, so I did not mind. I was sitting upon a grassy spot, but with due respect for the cloth I pointed out to him a bit of comparatively clean board, which he gratefully accepted and sat down upon, somewhat awkwardly, forgetting to adjust the crease in his trousers. He did not seem to be altogether comfortable there, and presently I broached the topic of the spring, and he grasped my hoe and began to dig in a promising spot, while I took a stick and made channels for the water to run off. There was plenty of water, but somehow we did not succeed in reaching the large clear stream I remembered, and after a while, when he had slipped in the mud and spoiled the appearance of his shoes and became more or less spattered besides, he seemed to be discouraged and mentioned that he had an engagement for tea. So he went away and did not come again, and though I did considerable exploring by myself, it was not successful and it really did not seem wise to hire a man to dig until I could locate the place with some definiteness. So the idea of curing the world at large, with incidentally some profit to ourselves, was laid on the table.

Still, there was the pond. "If that could be drained," suggested my Cousin Robert, who is a great fisherman, "and a dam built, it could be stocked with trout and make a fine fish-pond. You could have pond-lilies there, too," he added artfully, "and it would even be large enough for a small boat. We could easily get rid of the old building, burn it if necessary, and make a nice path down to the water. Then what an attractive place it would be. All the summer boarders in town would want to come there to fish and pick lilies, and you could make a lot of money."

"Have to make considerable to get back the money ye put in," said my Uncle Amos, "and ye'd have to fetch in a gang of Eyetalians to do the work, I reckon. Help's mighty skurce." And so it was, and I rejected that proposition almost in despair.

What was there left? Should I sit down and let things drift? No, there was one resort still—the old-fashioned method of the farmer's wife to earn spending-money—chickens. There was a horrible lack of originality about the idea; it promised no artistic beauty, and evidently meant that I must do most of the work myself; but it was the only thing in sight which seemed reasonably sure of any profit for that patch of ground, which had almost ceased to have any beauty in my eyes because it spoke of neglect and "shiftlessness." So I studied the poultry papers, got what advice I could and went to work. By taking time for it and hiring a man as one could be had, a day or a half day at a time, it was possible to procure what help was needed in getting things in shape. Johann was persuaded to help me take down the old fence and carry it away for kindling and to cut down the weeds and everything except the old apple-tree and a few clumps of bushes which were left for shade to the fowls. Then, choosing a day when the wind was right and it was not too dry, we burned up the whole collection of weeds and rubbish. As much of the lot as could be managed I had plowed. Then I bought poultry-netting and had a neat fence put around it and also down the hill, cutting it into two yards. The next spring, after the hens had scratched in the plowed ground for a while, one yard was harrowed and sowed with grass and clover and the hens shut into the other yard until this got a good start. Then they were transferred and the other side seeded down, and afterward I took care to alternate so that neither yard should become the bare and unsightly spot so often seen where poultry is kept.

The old building, however, needed considerable attention if hens were to be kept in it through the winter. All the old rubbish was first cleared out and either burned or stored away in one of the other sheds or barns about the place. On the south side were windows, badly broken, and these had new glass set, and a large window was put in on the west. A good high banking was placed around the north and east sides, and a couple of loads of gravel added to the dirt floor of the house, as a protection against the wind which had a tendency to come up from those sides underneath the building, where the ground sloped rapidly away from it. Also, the outside of the house on the north and east was covered with heavy roofing-paper. (I might mention in passing that Jeannette was much shocked at my standing upon a high step-ladder to assist in this process.) The loft overhead was filled with unthreshed oats, both for warmth and that they might readily be pitched down from time to time during the winter for the hens to scratch in. Light, movable roosts were put up and convenient nest-boxes constructed, and the whole interior was given a thorough coat of whitewash by means of a pump with spray attachment. Lastly, I had built a small scratching-shed on the west side of the house. This was boarded and covered with paper on the north side, on the east it was protected by the building; but on the south and west there was only netting with cloth curtains which could be lowered when it was stormy or very cold.

The next and most important step was to secure the occupants of the dwelling, and after some search I purchased fifty pullets and year-old hens, mixed White Leghorns and Wyandottes. And they *laid*—yes, they laid—in December. Jeannette, who is interested in psychology and has studied the question of dissociated personalities, was confident that my own personality was just about to tumble into two parts; for she found it impossible to believe that the same person who enjoyed pretty dresses and well-ordered rooms, and nice, neat things in general, could bring herself to wear a short gymnasium suit and rubber boots and a cap, and go forth to minister to a lot of dirty fowls. But Jeannette is limited in her views and loses much of the satisfaction of life in consequence. She never knew the joy of breaking through snow-drifts or of defying cold and triumphing over obstacles generally, nor how sociably my biddies conversed with me when I carried them warm mash on a cold day, how they assured me that my venture should succeed if their ability for laying eggs held out, for their intentions were of the best and they had the most kindly feelings toward me. They did do well, and by the end of the year had paid for themselves, for what feed had been bought—about half their food was from the farm, but in return for that we had used eggs and some chickens—for the help I had hired and for the expense of fitting up the place, and I had a few dollars left for my next beginning. This next venture was the fixing up of the basement of a barn which had a south and west frontage and was capacious enough to hold a hundred hens; and the next year the profits were so considerable that my good uncle suggested I might begin carrying out my ideas concerning the fish-pond, the water-lilies and the mineral spring. I should like to do that some day, but for the present I am busy with my increasing flocks. The neglected spot with which I started, is not bad to look upon now, for it is dotted with spots of white, which a nearer view shows to be groups of active and thrifty-looking fowls. They show up attractively against the green background. About the scratching-shed and on the south side of the old building, which are the parts to be seen from our windows, I have placed woodbine and June roses, and as they grow year by year the place will become a picturesque and beautiful part of the landscape.

So I consider that the problem of one waste spot has been solved; but almost every time that I go to ride about the country I see some neglected field and often an old unused building. I wonder why other farmer's daughters, or sons, do not wake up to the situation.

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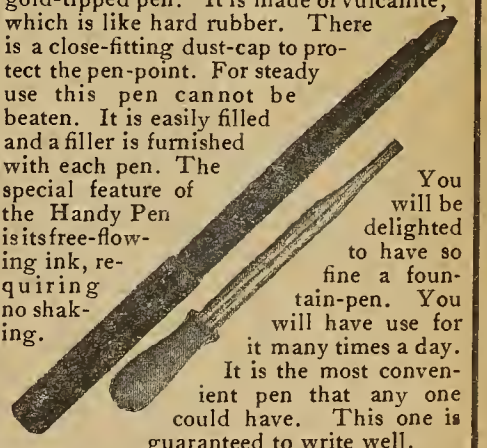

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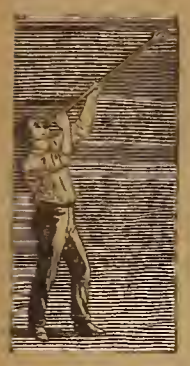

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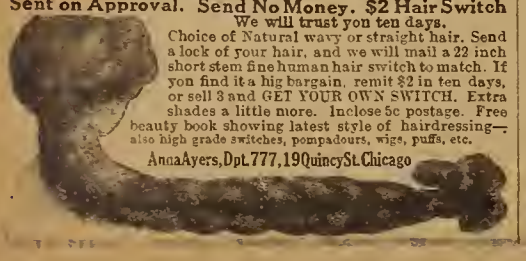

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Doubting Castle

By Rev. Charles F. Weeden

DOUBTS are not peculiar to anyone. Mystery surrounds us. The Christian believes that doubts are greatly lessened and mysteries reach a clearer solution by belief in God. It requires no great amount of intelligence to disbelieve. Careful investigation and vigorous thought lead to steadfast belief. Why is it that men talk more about religious difficulties than others and are more frequently overcome by them? You eat bread and wear clothes and never question the mystery that surrounds their source and production. Crowds in the cities whirl along on steam and electric cars, yet you never saw steam in your life and electricity is an unknown wonder creating motive power! But when it comes to religion some men decline to accept facts. To one who was stumbling over Biblical miracles—they are not more remarkable than the crystallizing of a raindrop into a snowflake—a wise old lady said, "Well, if the great fish swallowing Jonah equals the world with God, then Jonah swallowing the great fish equals the world without God!" What would the world do without religion?

Believers are tempted to turn aside into some attractive by-path meadow. In spite of experience the same mistake is made over again. There's a time in every life, however strong, when there will be a temptation, softly whispered, to go into some forbidden and sinful road. Hard places are the safe places. Rocks are surer than swamps. Unchecked thought invariably breeds wrong-doing. Fidelity is the safeguard. Fidelity to business, to the farm, to school, to church, to our home.

Supposing we are caught by the Giant Despair and imprisoned in Doubting Castle, how may we find our way out? Moments of despondency are common. At times Shakespeare thought himself no poet and Raphael doubted his right to be called a painter. What is the remedy for these perplexities? Different ways for different temperaments. One escape from Doubting Castle is

By Clear, Honest Reasoning

I once knew of a man in the West who said if he could only see plan and order in Nature he would believe in God. As if taken at his word he noticed at his feet a plant known as the Texas star. Picking it, he counted its petals and found there were five. He counted the stamens and found five. He next counted the divisions at the base and found five. Intent, if possible, on finding in Nature some evidence of intelligence superior to human and other than mechanical force, he determined by multiplying to see how many chances there were of this flower, having in it these three fives, being brought into existence without the aid of intelligence. He found, of course, the chances to be as a hundred and twenty-five to one. This was rather startling arithmetic. He quickly plucked another flower like the first and holding the two before him and multiplying one hundred and twenty-five by one hundred and twenty-five he saw that the chances of there being two such flowers, each having this exact relation of parts and numbers, are as fifteen thousand to one. Looking up over the fields and along the roadside, he saw thousands of this plant about him, evidences of supreme intelligence. The truth flashed into his mind irresistibly and he cried out, "Bloom on, little flower, you have a God, I have a God; your God and Maker is my God and Maker." Men can believe if they want to. There is sufficient proof. Mathematics is sometimes an invincible and manly remedy.

A second way of escape is by the knowledge of a

Savior

In Jerome K. Jerome's book, "The Passing of the Third Floor Back" the sloven of the boarding-house who has fallen into immorality and despair is surprised to find that she can come back to respectable life and true womanhood. It is the Christ who has said, "Him that cometh unto Me I will in no wise cast out." The old world needs this Savior and hope.

A third way to escape our doubts is

By Faith

Prayer is the key to God's promises. In this spirit the divine word becomes real and we trust. Mr. Moody once learned a lesson from his little girl. She was always teasing for a great big doll. She had a lot of dolls around the house, without heads, some without arms, some without legs, but she wanted a great big doll. "One day," said Mr. Moody, "I had a good streak come over me and took her to a toy-shop to get her a doll; but as we went in the door we saw a basket of little china dolls. 'Oh, papa, isn't that the cutest little doll you ever saw?' 'Yes, yes.' 'Well, won't you buy it?' 'Well now, Emma, let me choose this time.' 'Oh no, papa, I just want this little doll.' I paid a nickel for the doll and took her home. After the newness wore off, the doll went the way of the others. I said, 'Emma, do you know what I was going to do that day when I took you to the toy-shop and you selected the china doll?' 'No, papa.' 'Well, I was going to buy you one of those great big ones.' 'You were; why didn't you do it?' 'Because you wouldn't let me. You remember you wanted that little doll and would have it.' The little thing bit her lip and did not say anything more." God is ready to give us great gifts, but we scramble for the baubles of the earth. Faith holds on. "His will, not mine, be done" is a profound and profitable prayer.

Once more. The strength of our faith is limited by the strength of the one in whom we trust.

Love Leads Us

out of doubt and perplexity. In the Highlands of Scotland there is a mountain gorge twenty feet in width and two hundred feet in depth. Its steep walls are bare of vegetation save in crevices, where grow numerous wild flowers of rare beauty. Some scientific tourists once offered a Highland lad a handsome reward if he would consent to be lowered down the cliff by a rope and would gather a little basket of these mountain beauties. The boy looked wistfully at the money, for his parents were poor; but when he looked over the yawning chasm he shuddered, shrank back and shook his head. But filial love was strong within him and after another glance at the money and at the terrible chasm, his heart grew brave, his eyes flashed and he said, "I will go if my father will hold the rope." It was a daring deed, but the lad's faith in the love of a father's heart gave him courage and power to do it. When you and I can believe a loving heavenly Father and trust our destiny in His hands we can go bravely on, as each day comes to us, to bear the wrong or the pain and to dare the right and the true.

Why not believe?

What Does Christ Mean to Us?

Orin Edson Crooker

WHEN Gypsy Smith was in Chicago last fall he led a parade of Christian workers through the "red light" district. A young man who had been on the downward course for several years heard the singing of the marching throng and the exhortation of the evangelist. That night he sent the first letter to his mother that he had penned in many months. It was brief, but to the point. "I am not what I was," he wrote, "I have found a friend."

It is this sense of friendship with Christ that is the very heart of one's spiritual life. "What a friend we have in Jesus," runs the old gospel melody. "Ever notice how whole-heartedly any gathering of church people sings this hymn?" asked one Christian of another. "It's because 'a friend' means so much to everyone," he explained. "If a man feels toward Christ as he would toward a friend, you may be sure that he is not very far from the kingdom of heaven."

One's personal relationship with Christ thus becomes of vastly more importance than one's mere theological opinions about Him. One may be acquainted with all the various forms of speculative belief in regard to the "person" of Jesus Christ and still be far from the goal of Christian endeavor. One may be worthy of being counted among the "wise men" of the world in matters of theological lore, but a personal acquaintance with Jesus Christ and a sense of His constant companionship is worth more in the battle of life than all the wisdom of those learned in the logic and reasoning of doctrinal speculation.

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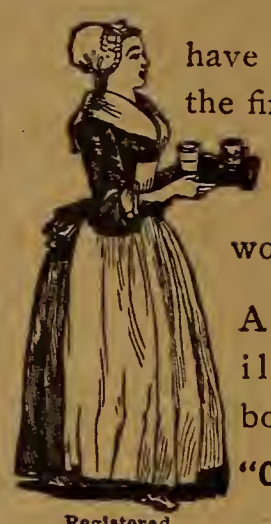

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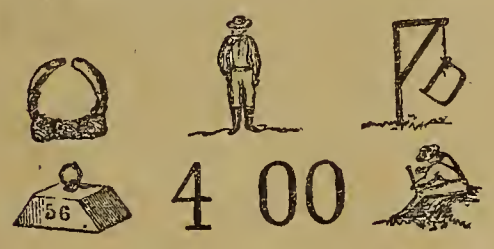
Our Puzzle School

Conducted by Sam Loyd

A Rebus

Here is another of Poor Richard's old-time rebuses:



A Puzzle Letter From the Farm

DEAR COUSIN:—

We had a high old time at the farm last week; some wag advertised that Butcher Riesmann would be on the spot at one o'clock to pay cash for all the dogs that would be brought to him. They came in droves and by the wagon-loads. One cur ran towards him as if to bite him, but he seized a heavy switch a yard long and gave him a big rap, estimated to fell an ox; every dog he saw he attacked and gave a slap, "plexis solar knock-out," he called it, but it only gave rise to the story that he was killing them to make sausages, so no one would eat them for a month.

You remember Uncle Alfred, whom we named the new calf, "Alf," after. He went crazy the other day and thought he was going to die. He gave orders to ma, to essentially buy every known medicine to save his life. He ordered them to ride to the drug-store in the auto cab, bag everything in sight that might do him good. The drugs and herbs made up a great parcel. Erysipelas, grip, lumbago and infantile colic were killing him he said.

The doctor came and pronounced him ill, ether was administered, but he said he would not be answerable for the dope, arsenic or nux, which had been given to him. We did hope a chest-protector and a simple mixture of sugar, licorice and slippery elm would pull him through.

By the way, the doctor has a new runabout, so the big touring car rots in the shop. Seeing the number R, I especially noted it, as I want pa to get one just like it.

I promised you a list of the things raised on the farm, but you will have to find them concealed between the words in this letter.

With much caloric love, remember me to the whole family. SAM.

Brain-Sharpeners

Why is a leaf of a tree like the human body? Because it has veins in it.

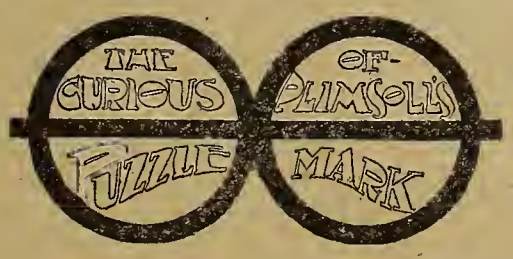
What is that which is lengthened by being cut at both ends? A ditch.

Who is the greatest terrifier? Fire.

What is the best way of making a coat last? Make the trousers and waistcoat first.

If you drive a nail in a board and clinch it on the other side, why is it like a sick man? Because it is in firm.

Here is a puzzle based upon the famous "Plimsoll Mark," which the late Samuel Plimsoll, M. P., known the world over as "the Sailors' Friend," after a continuous agitation for fifteen years induced the English Government to have placed upon every vessel that flies the British flag. It



is placed on the extreme water-line, and there are heavy fines inflicted for loading a vessel so that the mark is below the water.

The puzzle is to draw the two circles with a straight mark passing them as shown, with one continuous mark and without crossing a line.

Somewhat Mathematical

A Dutchman with a goat and a goose met a milkmaid leading a cow, whereupon the maiden screamed with terror.

"What frightens you?" asked Hans.

"You are going to kiss me against my will," said the coy maiden.

"How can I do that with these cranky animals on my hands?" asked Hans.

"What prevents you from thrusting your cane into the ground so as to fasten the goat to it and then putting your goose under my pail?" queried the maiden.

"Because that cross-looking cow might hook me," said Hans.

"Oh, that fool cow wouldn't hook nobody, and what is to prevent you from driving all three of them into a pasture field?" replied the terrified maiden. And right here comes the most interesting puzzle yet presented to our friends; for during the subsequent discussion the following facts developed: They found that the goat and the goose together would eat just as much grass as the cow, so if that field would pasture the cow and the goat for forty-five days, or the cow and the goose sixty days, or the goat and the goose for ninety days, how long would it pasture the cow, the goat and the goose? Early replies are requested, as Hans and Katrina are contemplating a speedy partnership.

Simple Decapitations

Change one word to another by removing the first letter.

1. Behead a fruit and leave a word which signifies separate.
2. Behead a fruit and leave a part of the head.
3. Behead a vegetable and leave a plate.
4. Behead a grain and leave a frozen water.
5. Behead a grain and leave warmth.
6. Behead a grass and leave an admirer.
7. Behead a fruit and leave a stove.
8. Behead a kind of berry and leave a word which signifies short.
9. Behead a grain and leave a preposition.
10. Behead a wood-splitter and leave a brink.
11. Behead a sprinkler and leave a supplication.
12. Behead a cutter and leave a word which signifies to listen.
13. Behead a male bird and leave a farm implement.
14. Behead a farm implement and leave a word which signifies vulgar.
15. Behead a small wagon and leave high-class work.
16. Behead the farmer's stand-by and leave a limb.

Fun at Sing Sing

Two pals who did "pick it" duty (oakum) at Sing Sing evolved the following problem: "If you gave forty-seven cents for one hundred apples, and sold them for seventy cents, what per cent. profit would you make on your investment?

Answers to Puzzles of November 25th

To be Found On the Farm: 1, honey, hen, beans; 2, gander, cow, houses, oat, shad; 3, pick, horse, wheat; 4, pig, lamb; 5, scythe, reaper; 6, meadow, mare; 7, churn, stable, table; 8, crop, wasp, orchard; 9, egg, sow, well, stile, lard; 10, pasture, farm-hand, tomato; 11, rake, butter, flocks, sand, herd; 12, hen, ox, pitchfork; 13, sickle, barn, harrow, peas.

A Clever Word Puzzle: The word is "pork you pine."

The Price of Eggs: The grocer offers the eggs at 9 cents a dozen, but by throwing in two extra brought the price to 8 cents a dozen.

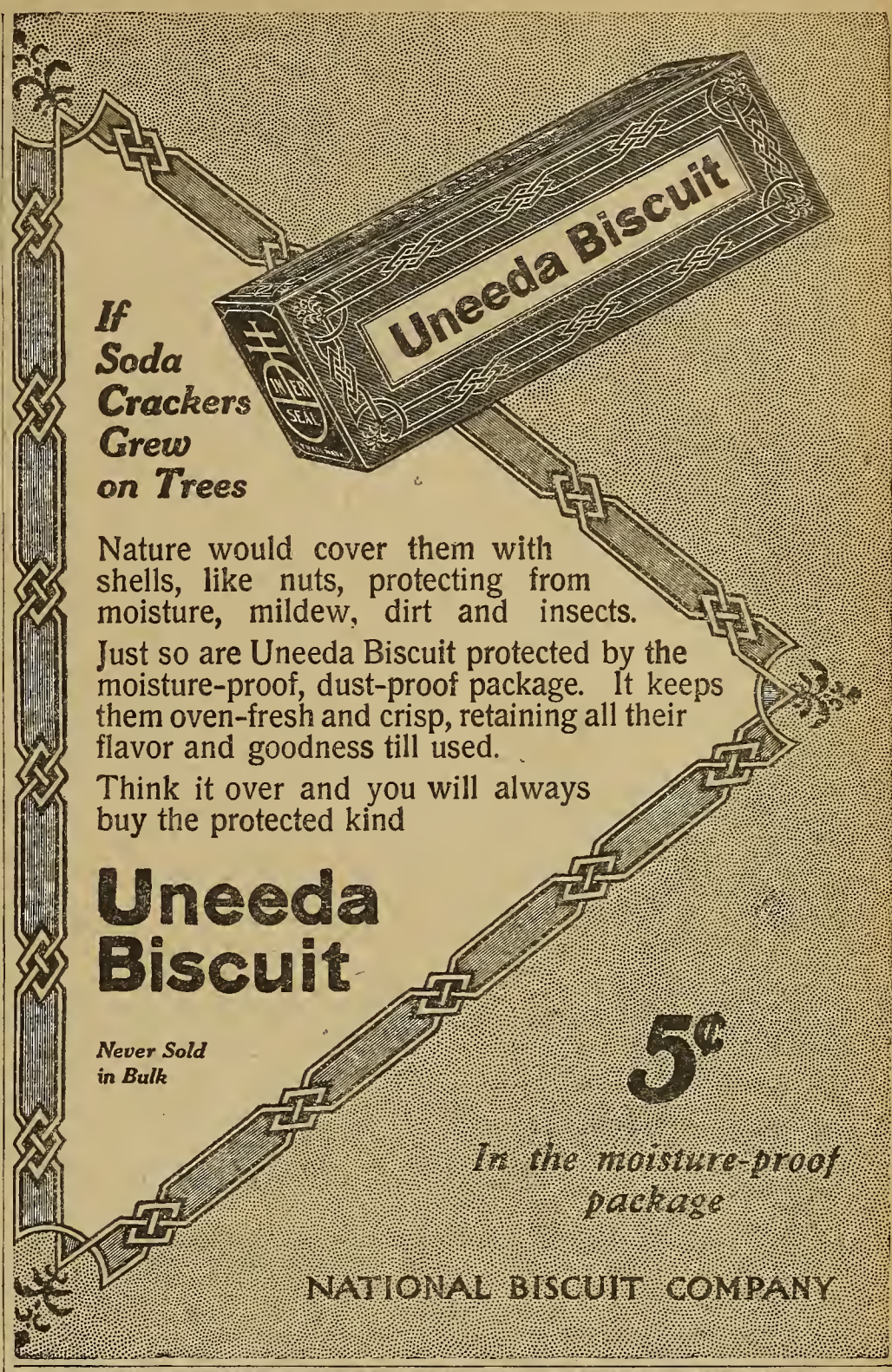
Concealed Geography: 163, Astoria; 164, Orange; 165, Poland; 166, Nassau; 167, Bath; 168, Omaha; 169, Saratoga; 170, Medford; 171, Rye; 172, Venice; 173, Corinth.

The old-time rebus says: "All that glitters is not gold," which is not correct. It should say, "All is not gold that glitters

The rebus word is "Speculation." The charade, "Ma Ted."

A prize puzzle book will be sent to the fifty readers sending the best answers to Sam Loyd, Box 826, New York City.

When answering the puzzles be sure to tell what books you have received so as not to receive duplicates.



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The Anniversary Picture can also be obtained in connection with the Flower offers on Page 26.

FARM AND FIRESIDE, - Springfield, Ohio

THE HOUSEHOLD DEPARTMENT

Helpful Hints for the Busy Housewife and Mother

Some Good Recipes

Swiss Style of Serving Eggs—Cover the bottom of a baking-dish with two ounces of fresh butter and upon this sprinkle grated cheese. Drop the eggs upon the cheese without breaking the yolks and season to taste. Pour over eggs a little cream and sprinkle with about two ounces of grated cheese. Bake in a moderate oven fifteen or twenty minutes.

Macaroni-Stew—One and one half pounds of round beefsteak cut into pieces and boiled with half a can of tomatoes, one onion and seasoned with salt and pepper, and half a package of macaroni boiled tender in slightly salted water. Put a layer of macaroni in a baking-dish, sprinkle with grated cheese (half pound to the dish), more macaroni and cheese, and pour over all this the water from the beef and vegetables. Have at least a quart of water and as it reduces in the baking, add more water; keep the top moist. Bake three hours.

Pocket-Book Rolls—One cupful of yeast-sponge, one half cupful of sweet milk, one fourth of a cupful of sugar, one egg, one cupful of potatoes (well mashed), flour to make a thin batter. Beat with mixing-spoon or Dover egg-beater until light. Let stand in a warm place until air bubbles cover the surface; this usually takes four hours.

To the batter add flour to make a dough as stiff as biscuit-dough and work in with the flour one half cupful of lard and one teaspoonful of salt. Let rise two hours or until light, then roll into a sheet one half inch thick, cut with biscuit-cutter, fold over in melted lard or butter and put in pan to rise. When light cook in a hot oven for ten or fifteen minutes.

Noah's Muffins—Mix well one tablespoonful of sugar, one well-beaten egg, one cupful of milk, with flour enough to make rather a stiff batter. Add two teaspoonfuls of baking-powder. Bake twenty minutes.

A Good Plain Omelet—Beat the yolks of three eggs well, add one half cupful of milk, one quarter of a teaspoonful of salt and one teaspoonful of flour. Mix well, then add the beaten whites of the three eggs.

Nun's Beefsteak—Cut one pound of beefsteak in small pieces, dip each piece in vinegar and put them into an enameled kettle with a tight-fitting cover. Peel and cut into small pieces two carrots, two onions, one turnip and four stalks of celery. Put them in with the meat, add salt and pepper to season, a generous lump of butter and a sprinkle of flour. Put on the lid and let cook very slowly for three or four hours, shaking the kettle from time to time to prevent burning. When done, turn all out together on a heated platter and garnish with strips of hot buttered toast. Slow cooking is essential to success with this dish.

Apple-Pie—Beat the yolks of two eggs with one half cupful of sugar until light, then beat in two cupfuls of strained sweetened apple-sauce. Favor with lemon and bake in one crust. Whip the whites of the eggs to a stiff snow, add two tablespoonfuls of powdered sugar, spread over the pie, and brown lightly in the oven.

Steamed Cup Pudding—Two eggs, one cupful of sugar, one cupful of molasses, two thirds of a cupful of sweet milk, with one half teaspoonful of soda dissolved in it, one cupful of beef-suet chopped very fine, one cupful of raisins seeded and cut, one cupful of currants and citron mixed, one cupful of chopped apples, three and one half cupfuls of flour, one teaspoonful of baking-powder, one teaspoonful of powdered allspice, one teaspoonful of cloves, two teaspoonfuls of cinnamon. Steam two and one half hours. Serve with sauce.

Steamed Bread-Pudding—Two cupfuls of dry bread-crumbs soaked in one cupful of sweet milk, one fourth of a cupful of butter, one half cupful of raisins, one half cupful of chopped nut-meats, one half cupful of molasses, one egg, one half teaspoonful of cloves, cinnamon and nutmeg, one fourth teaspoonful of salt, one half teaspoonful of soda, one cupful of flour. Let stand for half an hour and turn into a buttered mold. Steam for one hour and serve with sauce.

Lemon-Extract—Knowing that the real essence of the lemon is contained in the rind, I invented this method of extracting it.

Grate off all the outer portion that contains the oil-cells, peel carefully and cut into fine bits. Place in a wide-mouthed bottle, wide enough to admit a case-knife having a metal end on the handle, with which to press and grind peelings around in the bottle. When rind has been placed in bottle and pressed down tight, pour on sufficient alcohol to cover not more than by one third; then cork. Let stand several days; the longer the alcohol is left on, the stronger the extract will be. When the alcohol has drawn out all the oil that it is possible to extract, pour essence into another bottle and cork tightly. Twenty-five cents' worth of alcohol and the rinds of six or more lemons will make essence which will outlast several bottles of the lemon-extract sold in stores. Orange-extract is also made in the same way. MRS. F. KING.

For the Invalid

The room of an invalid or sick person should be stripped of all unnecessary draperies and ornaments. A restful picture or two is admissible. A rocking-chair never, as this is often a source of suffering to a nervous patient. A kind-hearted woman calling to see a sick neighbor rocked and talked incessantly until she left, leaving the sick much worse for her coming. Many well-meaning people show just this lack of forethought. It is far better to deny every outsider entrance, then the fear of hurting feelings and also of retarding the patient's recovery would be avoided.

I write this for the benefit of those doing nursing in their own family. It takes experience to learn unaided many little things of importance, as, for instance, not to rattle paper within hearing of the patient, to keep all magazines and papers from the room, not to sit and talk to each other around the bed. Wait until the person is able to be up and join you.

Do not ask questions: "Have you a pain anywhere?" "Are your feet cold?" By watching, a little experience will teach you to know intuitively many wishes of the sick person that may not be expressed.

If you have outside troubles do not speak of them, keep calm and show no undue anxiety. Look out for drafts, especially with an older person. If a window is near the bed, see that it is protected by a screen or some device. At the same time fresh air must enter in a way not to expose the patient.

Serve all meals on dainty dishes and in a way to tempt the appetite. Do not ask: "Would you like so and so?" Prepare what the doctor allows and what you know is good until convalescence.

It is a task to care for the sick and to furnish that great desideratum, cheerfulness. It goes so far to help on our way. We must each (women especially) pass through the two phases of patient and nurse. Upon which lies the heavier burden, it is hard to say, but in each case we learn valuable lessons in self-control and otherwise.

S. D. GARDNER.

A constant delight is to see "green things growing," especially in the depth of winter. One little novelty is made by cutting off a section across the top of a carrot, scooping it out till it will hold a half inch or so of water, and hanging it up near a window. By renewing the water daily, the watcher will soon see her improvised hanging-basket put forth little tendrils, and before long it will be decorated with a rich growth of delicate, feathery greenness. Parsnips can be treated in the same way.

Eggs in a nest make a pleasant variation for the invalid who is tired of the ordinary ways of serving this wholesome breakfast. In the center of a rather thick piece of buttered toast (not too dry) make a hole large enough to contain an egg set up on end. The egg can be boiled either hard or soft, but if soft, care must be taken in removing the shell not to break the contents. The shell-less egg can then be placed in the hole in the toast, sprinkled with salt and pepper and served on a plate garnished with a few sprigs of parsley. A delightful addition is to pour over the whole a cream sauce, as for creamed chicken.

When celery is to have a place on the invalid's tray, try splitting it lengthwise into narrow strips about six inches long and throwing these into ice-water for half an hour before serving. The celery will then be found to be delicately curled, and its dainty appearance is a real help to a capricious appetite.

Don'ts for the Sick-Room

NEVER sit on a patient's bed. Even a slight jar or additional weight is sometimes injurious to delicate nerves.

Never sweep a room while a sick person is in it. Clean it with a damp cloth till the patient is well enough to be moved outside while the room is thoroughly overhauled.

Never pour medicine from a bottle without keeping the label uppermost, and therefore free from discoloration by the medicine. An undecipherable label may result in giving the wrong medicine, with all its attendant dangers.

Never pour out medicine without first reading the label and shaking the bottle. Most medicines are compounds, and need to be thoroughly mixed.

Never put medicines and poisons on the same table.

Never whisper in a patient's presence, especially just outside the sick-room; the patient invariably thinks he is the subject under discussion.

Never use the patient's medicine spoon to taste his food. See that the food is flavored right before it is brought to the room.

Never overcrowd the tray.

Never leave drinking-water uncovered in the room. If nothing better is at hand, a piece of note-paper makes an effectual lid.

The temperature of a sick-room can be perceptibly lowered by hanging up sheets or large towels lightly rung out of cold water. If the water evaporates too rapidly, leave one end of the sheet in a pail of water, so that the evaporation will be continuous, and, if possible, hang the sheet so that it will be struck by some breeze from door or window.

Management in the Home

WHEN the housekeeper of the family breaks down from overwork it is often because of the lack of the virtue tidiness. Not always is it lack of tidiness on her own part, for most frequently it is because the other members of the family are without that virtue. In a family of even three or four who do not put away the things they have used, the resulting amount of confusion is indescribable. Every housekeeper will acknowledge that picking up is the hardest part of her labor, but only the methodical housekeeper knows how much it has to do with the cleanliness of the house and the health of the family.

The fact of the matter is a house never looks untidy where the children are taught from birth to put away things when they are through with them and where the grown-ups follow the same rule. On the other hand, the upset house demands and cries aloud to be cleaned, and forces the housekeeper to work and work, while her neighbor in the tidy house easily resigns herself to occasionally skipping the cleaning-day, for the impression of cleanliness is there, and influences even her who knows the truth.

In other words, an untidy house has a restless, nerve-racking effect on the mind. A neat, orderly room soothes the nerves. It may be ever so dusty, but the dust does not show and seems of little importance to a quiet mind. But the mind which lacks repose because that repose is lacking in the surroundings, magnifies the little things, makes an infinitesimal bit of dust of vast importance and bids the worker labor until every nerve and every muscle protests against it.

Contrast the methods of two women. Both decide to clean. In the house where method and order prevail the room undergoing cleaning will be upset and no other. But the woman who lacks method will upset all the other rooms while she is cleaning one, until her house is a mass of confusion and the task of straightening made double. The first woman could be interrupted at any time by chance visitors without doing more than interfere with her work, but the second woman, who cannot get order until all the rooms are cleaned, finds unexpected visitors a strain on her nerves that sends her to bed with a headache after they have gone. Is it any wonder she eventually breaks down?

As stated above, children should be taught from birth to put things away when they are through with them. But this implies that the children should be given a place to put things. They should have a closet of their own in which to hang clothes, a bureau drawer for their personal possessions, a little desk or something which is theirs exclusively, and in the care of which they will take personal pride. A place shared with someone else never means the same to a child and never develops the instinct for neatness. It is far better to crowd the books and clothes and other possessions of the grown-ups, whose habits have already been formed, than to leave the child without his own little place for his own little things.

MRS. C. F. BOLDTMANN.

Little Helps

Instead of greasing your pancake-griddle, rub it with a raw turnip and see what nice cakes you will have.

Yolks of eggs may be kept for several days if carefully immersed in cold water without breaking them.

When cooking old potatoes add a little sweet milk to the boiling water and they will not turn dark.

To remove blood-stains, slightly dampen with cold water and cover with starch.

MRS. F. S.

When the pie-crust is prepared brush the lower crust with the beaten yolk of an egg and sprinkle with bread-crumbs that have been grated. This is especially fine for fruit and liquid pies. So many housewives are troubled with soggy pie-crust that I consider this little information very helpful.

Never shake a rug, whether fringed or bound, by the end. It may stand the strain for a while, but after a time the goods will wear and pull out. Hold a rug by the selvage edge when shaking.

A stained floor or one which has been shellacked after staining should not be washed, but rubbed, like the polished floor, with a cloth moistened in a mixture of equal parts of crude oil and turpentine. Rub with a dry cloth afterward.

Clean and whiten the keys of the piano by wiping with a soft flannel moistened in alcohol. Denatured alcohol may be used.

When boiling clothes, put a piece of paraffin in the water. It will make them whiter and they will not require much rubbing.

When making starch, add a small piece of paraffin before cooking. It will prevent the irons sticking and give a beautiful gloss to the clothes.

When making oyster-stew, boil the liquor of the oysters and the milk separately. Mix them while boiling hot and the milk will not curdle.

Of Interest to Mothers

Helping Mother—When the little son was five years old he was given a bright new tin pail and several brushes, and told that thereafter he was expected to keep a pan of clean potatoes in the pantry for mother. This was not a heavy task, but it taught the lesson of responsibility. Later, mother left a card each morning beside the potato-pan, with the name of any vegetable she desired from cellar or garden, and this was also left ready for her to use. The little man, now eight years old, feels very necessary and important in his own home, and seldom fails in his responsibility. He feels it a great disgrace to be reminded of his work. A. M. A.

Whispering Game—A mother of my acquaintance teaches her children a whispering game when they are mere tots. They consider it a great accomplishment. This proves convenient when taking the children to any public meeting where unusual quietness is required, or at home when silence is desirable. With a little girl whose nervousness amounts to seriousness this was a boon; when she began showing signs of great excitement at her play, she was taken at once to a quiet room to indulge in a "whispering game." This always quieted her, and she frequently fell asleep in the midst of it.

Don'ts for Baby—Give baby all the water you can get him to drink, but *don't* give it to him cold. Often when he frets a drink of water will quiet him. He is just thirsty.

Don't feed him every time he cries, but at regular intervals. Every three or four hours is plenty from the start and only once during the night. More babies cry from disturbances of the stomach from overfeeding.

Keep him out of doors all day, if possible. There is nothing like fresh air for health.

Don't let anyone handle him more than is necessary. It makes him tired and fretful.

Under no conditions allow anyone to kiss him on the mouth. There is no surer way of spreading disease. MRS. J. J. O'C.

Early Garden Hints

Most of our flowers for summer beds and borders require an early start if we get any flowers during their short blooming season, and these should be started in February or March, in the house, and will be large enough to bloom by the time they are to be transplanted to their permanent beds. Plants for bedding, borders, pots and hanging-baskets can all be easily grown from seed. For bedding, there is the canna, dahlia, verbena, pansy, snap-dragon, cosmos, all of which are very easily grown from seed. The hard seed of the canna should be soaked in warm water three or four times before planting.

For borders there is the sweet alyssum with its feathery white flowers that are so beautiful for edging beds of scarlet geraniums and the salvia splendens. A packet of this will make sufficient plants for two or three large beds, and if the flowers are cut often this will be a mass of bloom the entire summer. The old silver-leaved centaurea or dusty miller is one of the finest of edging plants, and grows as easily as a weed from seed. These seed germinate very quickly and the plants will live long after frosts in the fall, making the beds beautiful after the tender plants have been killed or moved. These seeds must be started early and the plants grow very rapidly if given a rich soil and sufficient moisture.

The cyclamen, smilax, heliotrope and coleus can be easily grown from seed if given the necessary warmth, moisture and patience. A great deal of the latter will be required as the smilax and cyclamen require nearly one month for the germination of the seed, and both should be well soaked in warm water before planting.

The heliotrope can be grown from seed, but the seed are very fine and should have only a thin layer of soil over them, and should be watered very sparingly. It is best to place the seed-box in a pan of water and allow the moisture to soak up through the drainage holes and in this way the seed will not be washed out.

The Kennilworth ivy is fine for baskets and a number of fine plants can be grown from one packet of seed. In planting seed use shallow boxes or tin cans, have good drainage and finely sifted soil, cover with a pane of glass and place in a warm sunny window. Cover each seed to a depth proportionate to its size and keep moist.

The Calceolaria—These queer-looking flowers are usually great favorites with the children, their curious blotchings and colorings being a source of endless delight to them. They cannot understand why they should have the hole at the top, and invent for them many quaint names. They must have an open, sunny location and a light, sandy soil enriched with well-rotted manure. Start them where they are to bloom, sowing the seed in drills two inches deep. When they are four inches high, thin to two feet apart, as they must have plenty of room, and keep growing fast until the blooming period is reached. As they are very tender do not sow the seed until all danger of frost is past. Give a top dressing of bone-meal when the buds break, and water freely. LAURA JONES.

FOR THE SPRING WARDROBE

IDEAS FOR PRACTICAL CLOTHES

BY MISS GOULD

No. 1067—Misses' Yoke Nightgown

Pattern cut for 12, 14 and 16 year sizes. Material required for 14 years, six and one half yards of twenty-two-inch material, or four yards of thirty-six-inch material, with one half yard of inserted tucking

ILLUSTRATED on this page are an unusual number of practical helpful designs for the woman who makes her own clothes and is a busy housekeeper. They are all smart and up to the moment in style, yet very simple to make. There is the one-piece street dress in pattern No. 1626 which will appeal to many women; the two good-looking waists, pattern No. 1577, a plain shirt-waist, and the other pattern, No. 1595, a pretty afternoon blouse; an apron pattern, No. 1266, and a good wrapper pattern, No. 1545. Then there are also the two practical designs for the young girl's wardrobe. The petticoat in pattern No. 1689 and the nightgown in pattern No. 1067 can easily be made by the young girl herself. The price of each WOMAN'S HOME COMPANION pattern illustrated on this page is ten cents and they are all guaranteed to give perfect satisfaction.

No. 1545—Kimono With Inverted Plaits at Back

Pattern cut for 32, 36 and 40 inch bust measures. Quantity of material required for 36 inch bust, ten yards of twenty-two-inch material, with one and seven eighths yards of contrasting material for trimming-bands. The sleeves are cut in one with the kimono

No. 1577—Tailored Shirt-Waist With Rolling Collar

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and seven eighths yards of twenty-four-inch material, or two and one fourth yards of thirty-six-inch material

No. 1595—Costume Blouse With Rolling Collar

Pattern cut for 32, 34, 36 and 38 inch bust measures. Material required for medium size, or 36 inch bust, two and one fourth yards of twenty-two-inch material, with five eighths of a yard of velvet and three fourths of a yard of satin for girdle

No. 1626—Coat Dress With Adjustable Chemisette

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, six and three fourths yards of thirty-six-inch material, or five and one fourth yards of forty-four-inch material, with seven eighths of a yard of contrasting material for trimming. Fancy mixture cheviots, zibelines or serges are attractive fabrics to use for this design, having the collar, cuffs, belt and tie of soft satin. Use black satin for bright-toned mixtures and brilliant shades of satin such as royal blue, bright green or cerise for the darker colored materials. Can be used for a traveling costume to wear with long wrap

How to Get the Patterns

If you want clothes that are right in style and yet practical, use the patterns which are illustrated in FARM AND FIRESIDE. These are the famous WOMAN'S HOME COMPANION patterns which are guaranteed perfect. The patterns are most simple to use and we supply them at the very low price of ten cents each.

So great has been the demand among FARM AND FIRESIDE readers for our WOMAN'S HOME COMPANION patterns that we have established three offices or depots from which these patterns can be obtained, as follows:

Eastern depot: FARM AND FIRESIDE, 11 East 24th Street, New York City.
Central depot: FARM AND FIRESIDE, Springfield, Ohio.
Western depot: FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.

We suggest that you send your order to the depot that is nearest to you to facilitate the quick delivery of the pattern.

A Premium Offer

To any FARM AND FIRESIDE reader who sends us one new subscription to FARM AND FIRESIDE with fifty cents for the same, we will give as a premium for the subscription one WOMAN'S HOME COMPANION pattern. To obtain a pattern without cost, send the subscription to FARM AND FIRESIDE, Springfield, Ohio.

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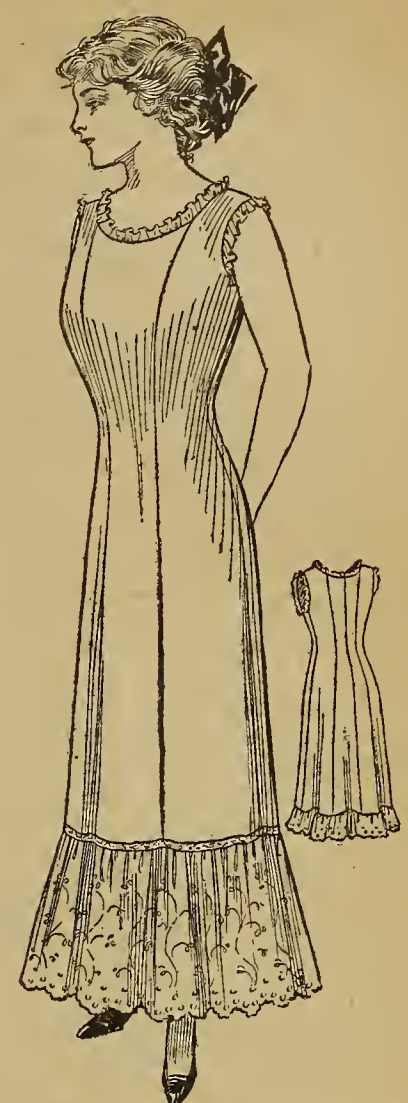
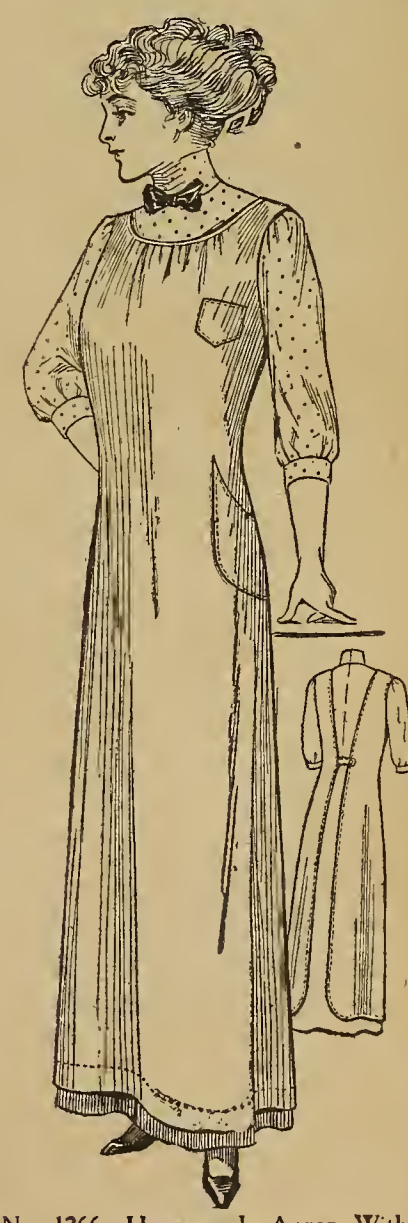


No. 1689—Misses' Princesse Petticoat

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, six yards of twenty-two-inch material, or four yards of thirty-six-inch material, with three yards of flouncing

THE new spring and summer catalogue of WOMAN'S HOME COMPANION patterns will be on sale March 20th. Every FARM AND FIRESIDE woman reader will not only want, but will need to see this big catalogue in which are illustrated all the best and newest of spring fashions. It is full, too, of helpful, practical designs for useful garments, which are just what every busy housekeeper and mother needs. There are also many designs for the young school girl and for the little folks at home. The catalogue costs but four cents and to facilitate quick delivery may be ordered from the nearest of the following addresses: Pattern Department, FARM AND FIRESIDE, 11 East 24th Street, New York City; FARM AND FIRESIDE, Springfield, Ohio; FARM AND FIRESIDE, 1538 California Street, Denver, Colorado.



No. 1266—Housework Apron With Dust-Cap

Pattern cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, four and one half yards of twenty-seven-inch material. The pattern includes a very attractive dust-cap

Home Papers Without Cost

By special arrangement with the leading home and family papers in America, you can get any one of these great papers for a year without cost with Farm and Fireside as explained below.

Farm and Fireside
The Housewife
For One Whole Year
both for **50c**

The Housewife is a bright entertaining monthly magazine, containing many wholesome serials and short stories and articles of unquestioned merit. It is a magazine that a woman looks forward to receiving each month. It is well illustrated with the work of the best-known artists. Housewife is edited by Lilian Dynevor Rice. It has excellent departments devoted to fashions, cooking, etc.

Farm and Fireside
The Woman's World
For One Whole Year
both for **50c**

In Woman's World the up-to-date articles and good stories are high class, for it pays more for them than any other publication. Woman's World is progressive. No woman who is interested in the vital issues of life can afford to miss Woman's World. Over two millions read it eagerly every month.

Farm and Fireside
Successful Farming
For One Whole Year
both for **50c**

Successful Farming is the leading general farm publication of the corn belt. It is of special interest and value to people living in this region on account of its close application to those peculiar local conditions. It is also chuck full of practical and condensed facts which are of timely value. Farm people in the corn belt can profit by this combination of farm papers.

Farm and Fireside
Green's Fruit Grower
For One Whole Year
both for **50c**

Green's Fruit Grower is packed from cover to cover with practical and valuable information on fruit culture. It covers every fruit grown, berries, orchard fruits, grapes, etc. Green's Fruit Grower has for many years been recognized as an authority on fruit culture. Green's Fruit Grower has also departments devoted to poultry and dairying. It is an all-around farm paper.

Farm and Fireside
The Poultry Keeper
For One Whole Year
both for **50c**

Poultry Keeper gives every month pointers and ideas for producing eggs and raising fowl that means success. It is edited by the best men on Poultry Raising in America. It is filled with secrets of feed mixtures, quick growing chicks, ideas that men hesitate to part with. Poultry Keeper has one motto—Make the Hen attend strictly to business. It is invaluable to the poultry raiser.

Other Half-Dollar Clubs

Farmer's Voice — Southern Planter
Up-to-Date Farming — Farm Poultry
Missouri Valley Farmer

We will send Farm and Fireside and any paper mentioned in this advertisement, both for one year, for only 50 cts. They may go to different addresses if you wish.

The Above Offers Good Until March 25, 1911.

Farm and Fireside
Springfield, Ohio

OUR YOUNG FOLKS

Conducted by Cousin Sally

The Grain of Rice

Another Chinese Legend—By Izola Forrester

NCE during the rainy season the emperor sent forth word that whoever could win the favor of Amatarasu, the Sun Goddess, so that she should send sunlight to earth once more, might have the hand of his youngest second cousin in marriage, and dwell in royal state in the pagoda of the mist.

"Why does he offer the hand of his youngest second cousin?" asked Soo Wing of his brother as they sat on the lowest step of the pagoda of the mist, under the shelter of the big bronze statue of the Sun Goddess. Loo Wing, the younger brother, tucked his hands farther in his sleeves and shook his head.

"He has no daughters to offer. And his second cousins are most high and honorable, also. I would marry the youngest one myself."

"Very likely you would if you had the chance, you creeping silkworm that looks up to the sun," laughed Soo Wing. "Why don't you beat this statue of Amatarasu until she hears you and grants you sunshine?"

But Loo Wing said nothing. He stood up and gazed at the majestic, gently-smiling face of the Sun Goddess above him, and he wished with all his heart that he knew of something he could do to please her and the emperor, so that sunlight would shine once more and he might be given the hand of the second cousin in marriage and dwell in the pagoda of the mist forever.

Then he turned around and looked at the great fields of rice that meant food and life to the people of the land, and he saw how it was drooping and dying beneath the weight of too much rain, and all at once an idea occurred to him.

For days he hid himself and labored, while Soo Wing danced and laughed and teased him, and finally his offering was completed.

Once a week all the mandarins and the priests of the temple and the wise men of the court went up to the pagoda of the mist to pray to the Sun Goddess for help, and on this day Loo Wing waited at the foot of the big bronze statue, and after they had laid all of their rich offerings at her feet, he timidly placed his there.

"What is this?" cried the priests. "A grain of rice!"

And the old mandarins looked at it through their spectacles, and the wise men were mystified, for Loo Wing had taken a simple grain of rice and had marvelously carved it into a smiling image of the Sun Goddess.

"Why hast thou done this, thou worm that dares to gaze upon the sun?" they asked Loo Wing, their voices very gruff.

"I did it so she would understand how very much we need her," sobbed Loo Wing, frightened when he saw even the emperor regarding him sternly.

"Surely thou wilt be buried alive for thy presumption," said the old wise men. "Surely thou wilt be buried up to thy presumptuous neck in the earth, and the rain shall fall on thee for seventy days for this."

Then Loo Wing fell on the ground and beat his bare toes on the marble floor and wailed, but suddenly the emperor pointed to the grain of rice, and lo! it had sprouted, and from the carved, smiling lips of the Sun Goddess there showed a tiny bit of green, and another, and yet another, till the tender blades unfolded and there was revealed the growing rice.

And at the same moment the whole pagoda of the mist was filled with blazing sunlight, as Amatarasu showed her smiling face to the world, and the rain-clouds fled away.

"Bring forth the youngest second cousin," ordered the emperor, and Loo Wing was wedded to her there in the pagoda, and all of the mandarins and the wise men and nobles of the court gave them beautiful and costly presents. But just as they were leaving the rice-plant showered them with tiny pearls of white rice, and the emperor cried out:

"See, how Amatarasu teaches us that the poorest shall be the highest, and the most despised shall be the highest honored."

And he took the great bronze sword of the heroes that hung above the statue and laid it on Loo Wing and on the rice-plant.

"So shall you both be ennobled from henceforth," he said.

And to this day the rice-plant is the most loved in all China of the food-bearing plants, and wherever true lovers are wed, rice is thrown over them in memory of Loo Wing and the youngest second cousin of the emperor.

". . . As they were leaving the rice-plant showered them with tiny pearls of white rice"

December Prize-Winners

LUCILLE SKILTON, age sixteen, Ravenna, Ohio; Frances H. Stull, age thirteen, Portville, New York; Ethel Wirick, age thirteen, Maplewood, Ohio; Eloise Case, age sixteen, South Royalton, Vermont; Mildred Isaacson, age fourteen, Phillips, Wisconsin; Earl Hess, age nine, Salt Lake City, Utah; Bertha Magsig, age fourteen, DeWitt, Michigan; Agnes H. Myer, age eight, McHenry, Illinois; Grace Ingler, age thirteen, Bay City, Michigan; Frances Grinstead, age eleven, Morrisville, Missouri.

Honor Roll

THE following cousins deserve honorable mention: Lillian Douglas, Pauline Wilsey, Corda Smith, Lydia King, Aletha Boren, Igerna Barth, Edel Liebe. One of the above cousins neglected to state her age, so her verses were not considered among the prize-winners, in spite of the fact that they were very good. So please, boys and girls, always write your age when entering our contests, if you are anxious to win one of our prizes. Hereafter I shall not give any boy or girl a prize who forgets to give his or her age.

DEAR COUSIN SALLY:—
I received the club button and I am very proud of it. It is nicer than I expected to find it. I am sure I will be as faithful as I can.

I want to tell you about my little dog. She is light brown and white and I call her "Muffy." She weighs only eight and one half pounds and will be six years old the 24th of April. She is as spry as a spring chicken. She will sit up and shake hands and speak for her meals by barking and jumping; when she wants a drink of water, and I am down on the floor playing with her she will tickle me by rubbing her nose in my side. Now I must close.

Your loving cousin, ELAINE GIBBS.

I Wish

I WISH I were a soft white cloud
Floating through the sky,
Far above the valleys,
And o'er the mountains high.

I wish I were a snow-flake
Falling through the air,
Landing on the hill-tops
Or 'most anywhere.

I wish I were a fairy
Or an elf, because
I could drink the flower's dew
And fly on wings of gauze.

I wish I were a rain-drop
Coming from above,
But I guess I better be myself,
And have my doll to love.

FRANCES H. STULL, Age Thirteen,
Portville, New York.

Merry, Merry Sleigh-Bells

A FAINT, low tinkle in the distance is heard,
Like an Æolian harp or the song of a bird.
A song that is welcomed by all who hear,
'Tis the song of sleigh-bells, to all so dear.

The song grows stronger, nearer it steals,
And fills the air with its merry peals.
The old and the young then gather to hear
The sound of the sleigh-bells drawing near.

The peals jingle out on the frosty air,
Bidding us fling aside sorrow and care.
The stars look down with kindly gleams,
The moon sheds her light in silvery beams.

The horses slow up, the song is still.
The echoes die o'er the distant hill.
The tones of the bells echo far and near,
Wishing to all a Happy New Year.

LUCILLE SKILTON, Age Sixteen,
Ravenna, Ohio.

Monthly Prize Contest

THIS month I want my boys and girls to write a composition of about four hundred words on "My Favorite Hero." You all have some special hero whom you admire and with whose life and noble deeds you are very familiar. I would like you to tell why he is your ideal hero, and mention some of the brave things he did, or any little story that you know about him. But please remember that your composition must be your own work. Don't send in anything that someone has helped you with, but have confidence in your own ability and write the best composition you know how.

For the two best compositions we will give a fancy purse or a book to the girl and a knife or a box of paints to the boy. For the next best five in order of merit we will give prizes of beautiful pictures.

Write in ink, on one side of the paper only, with your name, age and address at the top. All compositions must be signed by parent or guardian to signify that you had no help with the work. In awarding prizes the comparative ages of the girls and boys will be considered. The contest closes March 20th. Address Cousin Sally, FARM AND FIRESIDE, 11 East 24th Street, New York City.

Cousin Sally's Club

IF YOU haven't joined Cousin Sally's Club, you have missed something really worth while. Join to-day and find out what it means to be a member of a big, splendid club like this. Our club button is very attractive and pretty, and costs only five cents. When you write for one, Cousin Sally will send you a long letter, telling you the club's motto and just what is expected of club members. The club is only for boy and girl readers seventeen years of age and under, and you do not have to be a subscriber to belong. In writing, address Cousin Sally's Club, FARM AND FIRESIDE, 11 East 24th Street, New York City. If you want to join the club at the same time you enter the contest then write your name, age and address on a separate sheet of paper.

Interesting Paragraphs

By John T. Timmons

THERE is no land on the face of the globe that is wholly free from insects in some form or another.

It is estimated that the people of England use each year the milk of five million cows.

Notwithstanding the fact that Turks are said to be very cruel people, there is no country in which so much kindness is shown to dumb brutes.

The salmon catch of Alaska now equals that of British Columbia, the United States and Japan. It is developing into one of the most wonderful fisheries of the world.

Physical culture is taught in every school in Germany, and each school is equipped with a gymnasium, where the pupils are expected to take a certain amount of exercise each day. Certain days are set apart for special instructions.

Fish are rarely poisonous, especially fish in northern waters, but in the tropics quite a few are found that are injurious to people eating them. A Japanese fish, fugu, has deadly poisonous roe, and the roe and meat of pike and sturgeon are poisonous in spawning seasons.

It is wonderful the difference in rainfall throughout the world. In some of the tropics, where conditions are just right, it rains almost every day. In certain deserts rain is unknown, and in other sections where the country is known as desert land rain comes once in every few years. On the coast of Ireland it rains on an average of two hundred and eight days, and in England it rains about one hundred and fifty days in the year.

People who live on the great continents and seldom, if ever, travel abroad or study carefully the geographical condition of the globe can scarcely realize the truth in certain matters. The Pacific ocean contains about fifty-five million square miles of surface, which is very close to the amount of land surface in the whole world.

At an elevation of but ten feet above the sea the apparent horizon is about ten miles distant. It would be about the same on a level prairie country.

In Syria oil and iron-ores have recently been discovered, and home as well as foreign capital has become interested in the development of the new field of industry. Many interested persons have gone there from various parts of the globe.

Vast colonies of the Colorado potato-beetles have been found traveling together along a country road and near a railway, and no one has yet been able to determine where their real destination was, as it was at a season when the potato-vines were dead. Ants and worms sometimes move in great colonies across the country.

In the province of Shansi, in China, immense deposits of the very best iron-ore have been discovered, and the financiers of that and other countries will erect great iron-works.

One of the more recent propositions in engineering is the construction of a great electric tunnel beneath the sea between Sweden and Denmark. Such a work would consume years to attain completion.

Russia has just recently established great electric steel-works, mainly for the manufacture of armor-plate and material for projectiles. Other countries have become much interested in this new move and will doubtless follow the example.

A sort of wine made from the palm, in addition to being used as a beverage is used as yeast, an insecticide and a very successful disinfectant. It has also been found to be excellent for removing rust from many metals.

To give the reader some idea of the growth of New York City, it is estimated that yearly there has been an increase of at least twenty-five thousand school children in the city during the past five years. These children alone would populate a good-sized city. The cost of building new schools would be no small expenditure.

From the best ascertainable facts it has been found that a hen will lay about five hundred eggs in her life-time if she is healthy and properly cared for. It has been found that the greatest number of eggs are laid in the third year, and the eggs will average more weight per dozen.

Two of the greatest waterfalls in Brazil are to be used to supply power to a great electric road that will penetrate a territory rich with vast mineral deposits. Great interest is manifested in this new project.

This country is one of wonderful wealth, but when it is all counted, it is found that about one fifth of the amount is represented in the New York Stock Exchange, where millions of dollars are changing hands daily, and vast fortunes lost and made in a few hours.

Naturalists, who are studying the habits of many birds, have found that an owl with a nest of young will gather an average of forty mice a day to feed the young birds. This is certainly proof that the owls should be protected against the cruel sportsmen who are ready to shoot down anything that offers them a mark.

It is very often quite difficult to get ample justice in the courts of law. There are so many ways in which real justice can be thwarted or postponed. There is a case in the English courts which was begun in the year 1707, and which is not ended yet.

Go when and where we will in this great land, we find thousands of people traveling. If one were to judge by the great throngs seen in some of the large depots of the leading cities, it would not be unreasonable to imagine enough people traveling to form a considerable colony. On a number of occasions, the railroads have handled as high as half a million people or more entering one city, and persons who are fully acquainted with the facts have stated there is very often enough people traveling on the entire railroad system in the United States in one day to populate one of the smaller states. The daily transit population of New York alone is somewhere near the quarter-million mark.

It is said the largest grape-vine in the world is at San Gabriel, California. It was planted one hundred and twenty years ago by Franciscan Friars. Its main trunk is over a foot and a half in diameter and about eight feet high. Its branches and immense foliage cover five thousand square feet. It often bears the immense crop of two and a half tons of fine fruit.

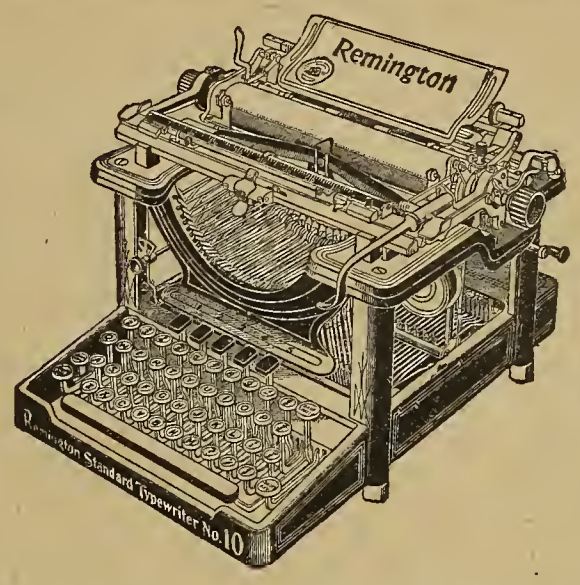
Many novel birds' nests have been found in various parts of the world. It is remarkable the skill displayed by some of the different species of birds in the construction of their little homes. The hanging nests are the most beautiful, and often show wonderful mechanical skill on the part of the little feathered weavers. One of the queerest of nests was found in a Connecticut town. It was made entirely from discarded ends of delicate watch-springs. These bits of metal were woven together in such a manner as to make it impossible for a person to detect the point of beginning or the completion of the novel nest.

The Mexican Central Railroad has established a plant where railroad ties made from native woods are so treated that they are rendered practically indestructible, and they are placing from three thousand to four thousand ties in use every day. This will possibly solve a problem that has been puzzling railroaders for years.

Recently a physician suspected that one of his patients had contracted tuberculosis from a pet cat. Accordingly, he examined about a hundred cats in the town and found tuberculosis germs in every one. A third of them were seriously ill. It has been claimed that cats can carry in their fur the contagion of scarlet fever and measles.

If one person could understand and speak all the various tongues in the world it is said he could not reason long, being liable to go mad. It seems strange to think there could be so many languages in one world, and especially one that is growing in intelligence and civilization as rapidly as the earth. But notwithstanding that there is a growing tendency toward the universal language, known as Esperanto, the people of the earth will be very slow to discard their native tongues. More than a million persons are versed in and are using, when it is possible, this comparatively new speech, and it is claimed by some of our most learned men that in a few generations there will be but the one. They say conditions will be such as to almost demand a universal language. Some tell us the very things that created the different tongues will make our speech universal in time to come.

Keeping at the Head of the Farm Procession



Necessitates A-No. 1 equipment in this day when the up-to-date farmer is one of the most progressive men between the two oceans.

One of the indisputable signs of this progress is the ever increasing number of farmers who use a

Remington Typewriter

When a farmer enters the Remington-using class he is right up at the head of the farm procession.

Remington Typewriter Company
(Incorporated)
New York and Everywhere

Get a Watch and Fob Without Cost

Boys: Here is a chance to obtain a handsome and useful watch, and a fine leather fob with a gilt metal charm engraved with **your own initial letter** without cost. FARM AND FIRESIDE guarantees you satisfaction.

DESCRIPTION: This watch has a handsome nickel case, with open face. It is a stem-wind and a stem-set, just like other high-priced watches. It has a close-fitted snap back. It is only ⅜ inch in thickness. It is a perfect timekeeper, tested and regulated before leaving the factory. It is engraved front and back, and is a watch of which anyone would be proud.

The Fob is of handsome black leather with a polished buckle, like illustration, with a rich gilt charm engraved with **your own initial.**

MOVEMENT: Regular 16 size. Lantern pinion (smallest made). American lever escapement, polished spring. Weight, complete, with case, 3 ounces. Quick train, 240 beats to the minute. Short wind, runs 30 to 36 hours with one winding.

Every watch is fully guaranteed by the manufacturers and by FARMAND FIRESIDE.

The manufacturers will make all repairs for a year free, as explained on the guarantee.

How to Get the Watch

You can get this dandy watch and fob very easily. Write a postal-card to the Watch Man. Tell him you want to get this watch and fob without spending one penny. He will be glad to help you get your watch. This is a chance you must not overlook.

Thousands of delighted boys have secured their watches this way with the help of the Watch Man. You can do it, too. Any boy that really wants one can easily get this fine watch. But how will the Watch Man know about you if you don't tell him?

Write a Postal To-Day to THE WATCH MAN

FARM AND FIRESIDE, Springfield, Ohio

We Want You to Have
A Triple Trick

A Combination Roaster Toaster, Warmer, Steamer and Sad-Iron Heater

This is the latest invention for women's comfort—simplest, most convenient and economical cooking utensil yet produced. It is practically a whole kitchen outfit in itself, one which instantly appeals to the judgment of every housewife in the land, who is anxious to get the best possible values out of her food, fuel, heat, time and labor.

The "Triple Trick" absolutely revolutionizes meat roasting, because it applies for the first time successfully the broiling principle, which is as near real roasting or cooking with fire as it is possible to come and use stoves. It saves you one-half of the 16 to 50 cents on the dollar which scientific test has proven results from roasting meats in ovens.

In addition to this, every oven will last four times as long if meats and other moisture-laden foods are not baked in them. These are the very foods which the all-around useful "Triple Trick" handles to perfection. Do you know that it was only when women began to cook meats in ovens that basting in any fashion was found to be necessary. With ovens basting always will be needful, because all good ovens in order to bake and brown flour foods evenly must have dry, equalized top and bottom heat, and a dry atmosphere always has and always must dry and shrink meats.

Saves Fuel and Time

You burn more fuel in 15 to 30 minutes, heating your oven hot enough to use your oven roaster than the "Triple Trick" combination requires to operate it a whole hour. The roaster works right on top of any stove, and thus gets direct action, saving your heat, as well as saving the meat. The "Triple Trick" Roaster broil-roasts meats and uses no water—hence no shrinkage. It applies the heat direct and thus saves one-half the fuel, and does the work without stooping or lifting. The "Triple Trick" toasts under cover in a pure, radiated heat. The toast is crisp, aerated, sanitary, helpful, and is the only toaster made which is useable on all stoves and which will keep toast warm.

A very simple adjustment converts the "Triple Trick" into a Food Steamer which operates on a *new*, strictly scientific principle Never Before Applied to Steaming Foods—a current of Dry Hot-Air is admitted to the Steam Chamber which neutralizes the steam and renders food light, digestible, instead of heavy and water-logged, as in old fashioned steamers.

Absolutely Without Cost

To really *appreciate* what the outfit looks like you must have one in your kitchen and, best of all, it *won't cost you a cent*, but will be sent you as a reward for doing Farm and Fireside a slight favor. Drop us a line right away and you will receive full particulars regarding our Special Gift Plan by return mail.

Farm and Fireside, Springfield, Ohio

FIFTY
Beautiful Post-Cards
Assorted Subjects
—For—
Farm and Fireside Readers

We have just concluded a purchase of Post-Cards which enables us to offer our friends an assortment of fifty cards of the very best quality and design, absolutely without cost.

These cards are without doubt the acme of post-card production. They are lithographed in ten colors and the designs are new, original and attractive.

YOU
Will Want These Cards

And we want you to have them. The subjects are many and varied, and can be applied to all occasions, such as Birthday Greetings, Best Wishes, Good Luck, etc.

We give you our positive assurance that a finer assortment of Post-Cards cannot be obtained anywhere. These cards are the best in every particular.

Write To-day
For Particulars

We will reply immediately telling you how you may obtain this fine assortment of high-colored, high-finished, high-price Post-Cards without a cent of cost to you.

Write at once. Address

FARM AND FIRESIDE
Post-Card Department
Springfield - - - - Ohio

THE ONLY GIRL WHO MAKES VIOLINS

Alvina de Ferenczy—Already Famous for Her Violins

By Laura Leonard

In a sunny studio surrounded by queer-looking tools Miss Alvina de Ferenczy, the only woman violin-maker in the world, may be seen any week day busily engaged in the work which she has chosen for her life's occupation and accomplishing with extraordinary skill what few men in the world can do with equal success.

Miss Ferenczy, who is not yet twenty years old, has been making violins since she was a young girl, having learned the art from her father, Karoly de Ferenczy, who was one of the most famous European violin-makers and whose instruments are prized by some of the greatest violinists of the world. Miss Ferenczy is a Hungarian by birth, though by choice she speaks the German language. She has a charming, ingenuous personality and her enthusiasm for her art makes her a delightful talker when she explains to visitors the successive steps in violin-making, using English with a quaint German accent. She never makes a violin now to sell for less than one hundred dollars, and as her renown increases year by year, she hopes that in time her violins will command ten times that amount, as did some of her father's. Although she can make bows and strings, she does not do so, preferring to give all her attention to the creation of violins with beautiful tone and endurance.

Miss Ferenczy is one of a family of five children, two sons and three daughters. Her father had hoped to see his sons grow to learn the art of violin-making in order that he could bequeath to them the formula for mixing the wonderful varnish which gives the marvelous tone to the instruments he made and which is said to be like that used in the old Cremona violins. But upon the death of his sons, Karoly de Ferenczy declared that the secret of his varnish should die with him. He had never heard of a woman maker of violins, and that a daughter of his would aspire to be one never entered his thought. Like all good Hungarian fathers, he felt that the happiest fate for his little girls was to marry when the right time came and to devote their time to household duties and the care of their families.

So the little Alvina and her elder sister, Irene, were sent to school and were taught the accomplishments of fine needlework and of cookery. That is why the young violin-maker to-day has a store of beautiful Cluny lace and fine embroidery that she made with her own nimble fingers and why she can cook all sorts of delectable German and Hungarian dishes.

But the little Alvina's dream of what her life should be was not that of her father. While she was very young the family moved from Budapest, Hungary, to Berlin and later lived for a time at The Hague. Everywhere, Karoly de Ferenczy made wonderful violins and won gold medals for them. Alvina flitted in and out of her father's work-shop and puttered around among the chisels and saws and glue-pots. Dolls, the way of most little girls, had no attraction for her, but if she could have a piece of wood and a tool to work it with she would invariably amuse herself for hours.

One day, when she was twelve years old, she came to her father bringing something for his inspection. He knew that for some time she had been working steadily on a "secret." When she showed him the "secret," he could scarcely believe his eyes, for it was a miniature violin fashioned from a cigar-box, perfect in shape and structure and complete even to the bridge and the keys.

"Meine tochter," he exclaimed, "meine kleine tochter," and there were tears of joy in his voice as he hugged her to his breast and called for "mutter" to come see.

Not long after she had made the miniature violin, her father decided to go back to Budapest. When they reached there, Alvina had quite forgotten the Hungarian tongue, so it was difficult for her to enter school. At her earnest request, her father gave her a bench in his shop and permitted her to make repairs on violins brought to him. She soon became expert in this, and could make new backs, necks and tops and repair cracks as skilfully as any of the workmen in the shop or, even, as her father himself. Then she was allowed to carve the F holes in new instruments, and when she had become apt in that difficult part of violin-making, her father allowed her to make the half-size violins used by beginners.

In her work she outstripped the large class of young men who were learning to make violins under the tutelage of Karoly de Ferenczy, and at the age of thirteen she was given her first full-sized instrument to construct. Her delight was unbounded, and her father's pride in her achievements could not be concealed.

When Alvina was fourteen years old the family came to America, tarrying for a time in New York, then going to Kansas City and later to Denver. It was in Kansas City that Alvina made her first violin independent of her father's instruction. This she sold for one hundred dollars, and the second, which was also made in Kansas City, was sold for one hundred and fifty dollars. Ever since then she has worked at her art devotedly and her fame as a violin-maker has grown until now she is known both in Europe and in Asia as a creator of remarkable examples of the "king of instruments."

Miss Ferenczy lost the guiding support of her father a year ago, but since his death her devotion to her work has been the support of her mother and her two sisters, all of whom look upon her talent as something to be venerated.

When Karoly de Ferenczy was on his death-bed, he intrusted to his daughter the formula for making his wonderful varnish which, up to that time, he had never been willing to tell her. "My daughter," he had said before, "she may marry; then I not teach her the varnish to make." But at the last he desired that she should learn the precious secret which he had, by strategy and at great pains, captured from Thomas Zach, the famous violin-maker of Vienna. So Alvina de Ferenczy is to-day the only violin-maker who has the formula for varnish like that which is said to have given the brilliant tone to the old Stradivarius and Guanarius violins. This secret she guards as jealously as did her father, for, like him, she has a pride of family and a pride of workmanship, and she hopes that in years to come the Ferenczy violins, whether inscribed Karoly de Ferenczy or Alvina de Ferenczy, will be ranked among the greatest in the world.

The models used by Miss Ferenczy are those which were used by her father. One is of Sarasate's Stradivarius which is now the property of the Queen of Spain, and the other of Paganini's Guanarius which is guarded day and night in the Palais Municipale at Genoa. All the wood that she uses comes from Hungary and none of it is less than two hundred years old. Just now she is making a violin from spruce two hundred and fifty years old that came from a church in Budapest. Some years ago, when the church was torn down, Mr. Ferenczy bought the organ and some of the benches, had them sawed into thin violin strips and inscribed his name on every piece. Later he sold them, but after coming to America he desired to buy them back and in doing so was obliged to pay ten times the original price. His daughter is now using this wood. Sometimes she uses Hungarian maple, of which a supply is imported about every year.

Miss Alvina de Ferenczy—the only woman violin-maker in the world—at work in her studio

Karoly de Ferenczy made and repaired violins for such famous artists as Emil Sauret, Pable de Sarasate, Joachin, Wirth and Heking. His daughter is not yet so famous among the great virtuosi, but with every year the fame of her skill increases. Not long ago she was asked to make a violin for George Arnold, of Brussels, whom she had never seen, but who had heard one of her violins. She sent the instrument as desired and in response received a most enthusiastic letter from Mr. Arnold. He says in the letter, "To my surprise, it is the best new violin I have had in my hands for years. . . . I am showing it all around and it is causing more than a little surprise. . . . You have a fortune in your hands, Miss Ferenczy, and I most sincerely hope your name will mark the page of the history of violin-makers."

It takes about two weeks for Miss Ferenczy to make a violin and two weeks more are required for putting on the varnish and rubbing it down. A very important part of the violin structure is the base bar and in the making of these bars Miss Ferenczy has been most successful.

The steps in violin construction could be better understood by watching Miss Ferenczy than from any verbal description. After the top and back are glued together and the main body of the violin formed, the "purfling" is done. This is the inlaying, made with alternate strips of ebony and maple. The object is not primarily for decoration as one might think at first glance, but to prevent the violin from cracking all the way up should it be injured or start to crack.

Putting on the neck and working out the scroll are fine pieces of work, but when these are ready the violin is almost done, all that is left being the fingerboard, varnishing, bridge and keys.

The finishing touch of all is accomplished when the young violin-maker inscribes on the completed instrument the statement, "Made by Aivina de Ferenczy," which means so much to her and which she confidently hopes will in time mean so much to violinists and violin-makers everywhere.

BUYING TROUBLE

By Hilda Richmond

A YEAR or so ago a man negotiated for a farm that seemed to him desirable, and was about to close the deal, when by the merest accident he discovered that the elderly lady who was one of the sellers had a husband living in another part of the country. One of the sons had remarked, when inquiry was made as to the owners, that his father was dead, and when confronted with the statement that the father was still living, he said lightly, "Well, he's dead to us. Long ago we ceased to regard pa as one of the family." Many of the people who knew them intimately were unaware that the old man was alive, and the family quietly determined to dispose of the property. Of course, the prospective buyer refused to be satisfied with the easy statement, "Pa'll never make you any trouble," and the proceedings were dropped. As none of them were worth much money, and what they had could not be touched, the man who narrowly escaped buying a lot of trouble would have had to compromise the best he could if he had not discovered the valuable information in time.

If people living right in the community with their neighbors can thus be fooled it is necessary that strangers be doubly careful. If there has been any infectious disease among the stock on a certain farm, the owner is not likely to mention it, nor will the neighbors, unless they happen to be enemies of the owner. There is a sort of feeling lurking down deep in the breasts of even good, honest people that strangers must look out for themselves. Also, if a man is seeking to sell his farm for special reasons, it is dishonorable to meddle with the sale. Well, in a way that is true, but it can be carried too far. It is a fearful thing to sell a house reeking with the germs of tuberculosis or smallpox to an unsuspecting person, or to keep still about a typhoid well just because the prospective buyer asks no questions about it, and the same rule applies to barns and out-buildings. In the old days when "milk sickness" was a dreaded foe, farmers always located it on the next farm or in the next township, and we are not wholly past that idea of business dealings to-day.

Often peaceably disposed men and women move out of certain neighborhoods on account of mean, churlish people living near them. In this case, the buyer surely gets more than his share of trouble along with his new place. A selfish, inconsiderate man, who cast his refuse into the stream flowing through his place, infected the whole neighborhood with germs from sick stock and otherwise made a nuisance of himself, lowered the value of land all around him, for people who were acquainted with him. A great many people said he should be punished, but it takes time and work to prove sins, even though everyone feels sure of the guilty person. No one can rush into court with rash statements, and expect the law to make all the neighbors do right. There must be clear evidence and plenty of it as to the wrong-doing. Always this man's stock (scrubs) would get in with that of his neighbors', and always some hunter had left the gates open, or the school children had torn down the fences, or a tramp had turned out the stock for spite. Any man who has ever tried to keep pure-bred stock by the side of a selfish, churlish man who allows his scrub animals to run at large, knows that there is no law made that will be ample for such cases. Better inquire about the neighbors and their methods of farming and stock raising before buying that new farm.

The stranger going into a new community should make sure that the people among whom he proposes to make his home are intelligent and progressive. "No man liveth to himself," especially in the country. In these days when it is almost impossible to get enough labor on farms, the farmers often have to combine to save the crops, and it is peculiarly exasperating to have to join forces with the slow, unprogressive individuals who use antiquated machinery and old-time methods. It takes costly time to explain new ways and new implements, and then these easy-going farmers do their worst to show that the "new-fangled" tools are worthless. Surely it is buying trouble to purchase a farm in such a neighborhood, no matter what inducements are offered in the way of soil, for no man can get along alone in these days. It is the hardest kind of hard work to pioneer with new things among farmers, and to "trade" work with them. They are perfectly willing to borrow the up-to-date machinery, in many instances, but that is as far as their progress goes. If the stranger refuses to lend, they boycott him in the way of exchanging work, and his crops suffer accordingly. Of course, where a man is sure he can always hire plenty of competent help, it is easy to be independent, but even then it is rather lonely living among people who will not "neighbor" with him.

So in buying a farm anywhere it is well to carefully look it over from all standpoints. Often a certain religion, politics, some organization or other local fact so dominates a community as to make it very unpleasant for an outsider. A sort of "ring" controls affairs, and everyone must conform to the neighborhood standard. Then there are neighborhoods where such a spirit of lawlessness prevails among the younger set, as to make it undesirable to rear boys and girls among them. No low price or good soil or nearness to market should tempt a farmer to settle in such a community. The best crop on any farm is the children, and it doesn't pay to expose them to danger. The popular belief is that trouble seeks out the individual and pounces upon him unawares, but often he buys it and pays a good round sum for it, as many farmers could testify if they would.

Be An Independent Buyer

"A Kalamazoo Direct to You"

TRADE MARK REGISTERED

—"And Gas Stoves, Too"

Oven Thermometer Makes Baking Easy

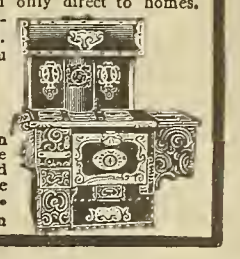
Spend One Cent For This Big FREE Book

Our Big Free Stove and Range Book gives you our factory wholesale prices and explains all—saving you $5 to $40 on any famous Kalamazoo stove or range, including gas stoves. Sold only direct to homes. Over 140,000 satisfied customers in 21,000 towns. Over 400 styles and sizes to select from. $100,000 bank bond guarantee. We *prepay all freight* and give you

—30 Days' Free Trial
—360 Days' Approval Test
—CASH OR CREDIT

Write a postal for our book today—any responsible person can have same credit as your home stores would give you—and you save $5 to $40 cash. No better stoves or ranges than the Kalamazoo could be made—at any price. Prove it, before we keep your money. Be an independent buyer. Send name for **Free Catalogue No. 183.**

Kalamazoo Stove Company, Mfrs., Kalamazoo, Michigan



Wanted—Local Club Agents

FARM AND FIRESIDE desires a local representative in every farm community who will devote a portion of his time to looking after renewals and new subscriptions. The work is pleasant and you will receive either Cash Commission or Valuable Premiums. Write to

Club-Raisers' Department
Farm and Fireside **Springfield, Ohio**

Make the Chicken Money Furnish your Home

There is a lot of money spent in every family in "dribs and drabs" which amounts to a very tidy sum at the end of the year, but for which there is usually very little to show.

Take your own "butter and egg" money for instance. You spend it for little comforts and necessities, but it is usually not enough to buy really big things. It seems so small we call it **"chicken-feed."**

Take the **pin money** of the city woman. She, too, spends it for just **little things**—it goes for this and that, leaving behind scarcely a trace of what it bought—that's why we call it **"chicken-feed."**

Our purpose in this advertisement is to tell you how the trifling **pin money** and the **despised "chicken-feed"** can be made to buy really big things.

Now, by spending it right, it will purchase many a useful and longed-for article that you have wanted for years. We will show you how to turn your spare pennies into home comforts—how to make the **"chicken-feed"** furnish your home.

Send for Our FREE Home-Lovers' Bargain Book

Picturing 3,000 Bargains for the Home

Bargains in Furniture, Carpets, Rugs, Draperies, Stoves and Ranges, Pianos, Silverware, Chinaware, Graphophones, Washing Machines, Sewing Machines, Lamps and Clocks, etc.

Our whole business is to buy and sell bargains in Housefurnishings. We go to manufacturers when they must unload and take surplus stock off their hands. We buy goods only when we are able to buy away below the regular cost.

We have a combined capital of $7,000,000, and we never have less than a million dollars ready for makers who must have money. We are everywhere known as the largest concern in our line—every maker of housefurnishings who must sacrifice any first quality stock knows that he can sell it to us. No surplus stock is too large for us to handle, for our customers are numbered by the hundreds of thousands and no sum is too large for us to raise if the prices we can get are low enough.

There are hundreds of makers of housefurnishings who turn to us when they must unload some stock quickly and quietly. The articles shown in our Big Bargain Book were purchased from over 180 makers. We absolutely guarantee to save you from 15 to 50% on every article shown in our Bargain Book.

A Harvest of Bargains for You

We not only pick up unusual bargains for you, but we sell them direct without any middleman's profit, without any expense save our Bargain Book.

When these lines are sold regularly, the maker pays salesmen to sell to the jobber, the jobber pays salesmen to sell to the dealers, and the dealers pay salesmen to sell them to you. Each middleman adds his expense and profit and the buyer has to foot the whole bill.

We not only buy at an under price but we sell at minimum cost. There is only our one small profit between the maker and you.

If some of our prices seem unbelievingly low, please remember these facts: We bought the goods low, sometimes away below cost—because the makers had to unload—we save the jobbers' 15% selling expense and the dealers' 50% selling expense. We are selling you in the cheapest possible way at the lowest possible profits.

Cash or Credit—One Price to All

But in addition to all the things we have told you—and here is where **you can make the chicken money furnish your home**—if at any time you do not have the ready cash to send in for an article or a bill of goods you can have the amount charged instead of paying the whole amount at once. Merely send with your order a small first payment of about 15% of the total amount and at the end of 30 days, if you are perfectly satisfied with the goods and intend to keep them, you begin paying for them in small monthly payments.

Now, you might think that by doing this, you are not entitled to all the advantages of a cash customer. But that's not true. That's just where the beauty of the plan lies. It don't make a bit of difference to the Spiegel, May, Stern Co. whether you pay cash or pay as convenient. You get exactly the same low bargain prices on everything. You are extended the same generous terms; you are allowed to buy on approval. You have the privilege of returning the goods if you don't want to keep them. You are treated exactly the same whether you pay cash or pay as convenient.

In fact, we would prefer to have you open an account. About 60% of our customers run such charge accounts with us, and about 40% of them pay cash. We are much closer to the people who have accounts with us and we are more likely to keep on selling them, because the Spiegel, May, Stern Co. stands out strongly in their minds.

All Goods Sent on 30 Days' Approval

Whatever you order from our Bargain Book will be sent to you on approval. You may use it for a month before deciding to buy it. If it isn't such a bargain as you expected—if it isn't in every way satisfactory—you may return it at our expense, we will pay the freight both ways.

If you have paid cash for it, the whole sum will be returned to you; if you paid part down, what you paid will be sent back. If anything you buy is not satisfactory, the trial will cost you not a penny.

This plan is for your protection. We realize that our prices will often seem ridiculously low for goods of first quality. You might hesitate to order if you had to buy them unseeing. So we send the goods to you to test and examine—to compare with similar goods in your own stores. We do not consider that the goods are bought until you have a chance to do this. If you want to return them you are welcome to do so without any cost or obligation.

You may be sure that the goods which we send out in that way are the bargains which we represent them. If they prove disappointing they would cost us the sale, your good will and cost us the freight both ways. We cannot afford to run such risks as that.

Our Vast Responsibilities

We publish in our Big Bargain Book letters from some of the biggest banks in the country who certify to our responsibility. We refer in addition to any bank or business house in Chicago. We refer you by special permission to the following banks:

The National Bank of the Republic, Chicago, Ill.
Atlas National Bank of Cincinnati, O.
Bank of Commerce, St. Louis, Mo.
First National Bank of Kansas City, Mo.

Any bank in your own city will tell you we are amply responsible, so will any express company or railroad agent.

Cut out this coupon and send it to us, and the big Spring Bargain Book—or Stove Book—or both—will come by next mail. Please do this before you forget it. (106)

Cut Out This Coupon

SPIEGEL, MAY, STERN CO.
1376 35th Street, Chicago, Ill.
☐ Mail me the Bargain Book.
☐ Mail me the Stove Catalog.
Name _____
Postoffice _____
State _____
I am particularly interested in _____

SPIEGEL, MAY, STERN CO., 1376 35th St., Chicago, Ill.

Overland

The *One* Car That Has The Strength and Stability to Stand The Strain of Farm Life

YOU want a car that is especially built to do the work that you require. You want a car that is built for your conditions. You want a car that has backbone as well as character and style—one that will take you with safety, comfort and speed wherever you want to go and under all conditions.

The ***Overland*** will do this and more. It is built for your conditions no matter how rough or severe they may be. It is built to work and give everlasting service on the farm—service that gives you good fat interest on your investment. The ***Overland*** is the one car the American farmer can invest in and get his money back with a profit that's worth while.

Thousands of American farmers own and operate an ***Overland.*** Ask them. They would have no other. Ask them about the ***Overland's*** ability to stand up and deliver. Ask them how it works month in and month out with never a sign of a strain or sprain. And a good many of these thousands of farmers first owned some other make which went to pieces before the car was many months old. They'll tell you how and why an ***Overland*** outclasses any other car on the market.

It Isn't Invention

The Overland position is not due to control of any pre-eminent features.

Our improvements have been in the way of simplicity, of lessened trouble and lessened cost of upkeep. We have built for the careful, economical buyers, most of whom run their own cars.

For two years our engineers gave their whole attention to creating an almost trouble-proof car. In doing this they designed an engine which has proved itself a masterpiece of mechanism.

The year just past was devoted mainly to improving the Overland style. The impressive lines of the new-model Overlands, the splendid finish, the myriad little touches, show the result of these efforts.

All these perfections have aided success. But they are trifles compared with what has been done through efficiency.

Cutting Down Cost

The next step was to equip our plants so that every part could be built in our factories, better and cheaper than anywhere else.

We installed hundreds of automatic machines, each of which cut the cost of some part.

Each gave us exactness to the thousandth part of an inch. And each made the part interchangeable.

Overhead expense was gradually cut by enormous production. This item—which costs more than the labor on most motor cars—is but a trifle per car on the Overland.

The cost of Overlands, in the past two years, has been cut 28 per cent. That means an average of $300 per car. And every cent of that saving has gone to Overland buyers.

Overland costs are now at the bottom. The costs of making and selling have been reduced to the minimum. The margin of profit is as small as it ever can be. Neither we nor our rivals can ever hope to sell an equal car for less.

There can be no further reductions. The buyer of a 1911 Overland will never find a car made as good as it can be—a car of equal size and power—sold for any less.

Fore-Door Bodies

The cars of the future will have fore doors.

In buying a touring car for years to come, insist on a fore-door model. Get a style which is coming in, not a style going out. No reduction in price can compensate for a car that is out of date.

See that the maker doesn't add the fore doors to a left-over open-front body. The result is a botch.

The finest fore-door models—like the Overland—have the flush bodies, giving six inches more room in each seat. They have the straight lines which give impressive appearance. Note how every curve and line in the Overland picture shows the car's up-to-dateness.

We still make open fronts for those who desire them. But the Overland line for 1911 is a fore-door line. And the fore-door models cost no extra price. Don't pay anyone extra for them.

Other Comparisons

In comparing cars, compare the power, the cylinder sizes, the wheel base and the size of wheels. Compare each item in the specifications to see where the differences lie. You can easily find out which car gives most for the money.

Compare the equipment. See that the maker includes the necessities—such as magneto, headlights and sufficient tire size—in his advertised price.

Compare, if you can, what owners say. There are Overland owners everywhere. They will tell you what they got and what you can expect.

Make these comparisons in justice to yourself and to Overlands. If the Overland gives more than any other car for the money, we want the credit and you want the saving. Be fair enough to find it out.

22 Overland Models

There are 22 Overland models for 1911, so that every motor car buyer can exactly meet his ideas on size and style, on power and price.

The power runs from 20 to 40 horsepower—the wheel bases from 96 to 118 inches—the prices from $775 to $1,675. The body styles include all that are wanted. All are four-cylinder cars.

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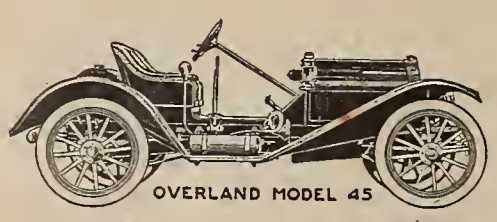

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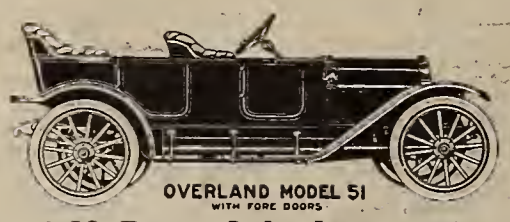

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FARM AND FIRESIDE

THE NATIONAL FARM PAPER

ESTABLISHED
1877

MARCH 10
1911

JOHN NEWTON HOWITT

Read About Farm and Fireside's Easter Offers, Page 38

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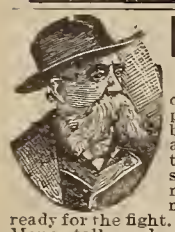

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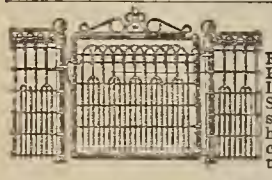

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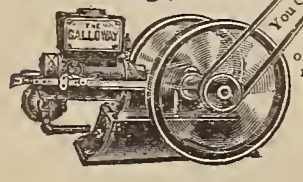

Wm. Galloway, Pres.
Wm. Galloway Co.
745 Galloway Station
Waterloo, Iowa

With the Editor

PRINTED words are the most important things in the world. At least that's what I think after something I write stirs people up. Words affect ways of thinking, and thinking makes the world what it is. Therefore, there is a great responsibility in this matter of making people think differently in the matter of what they are to produce. I have this letter from Mr. E. A. Lagergren of Grant's Pass, Oregon, who is disturbed by an editorial we published a few weeks ago on the future of the fruit business:

I can't refrain from answering FARM AND FIRESIDE's editorial "Is It a Fruit Bubble?" There are thousands of people coming to the Northwest buying fruit-farms, planting orchards and expecting to make at least a living from them.

Before I came to that editorial I read "With the Editor," as I always read his articles first. One article is worth the price of a year's subscription. I read where he stated that when he was a boy the Mississippi Valley was raising such tremendous crops that the world was not able to buy them. In other words, I suppose there was an overproduction.

I remember when I was a boy back in Kansas wheat sold for as low as forty-five cents per bushel and corn twelve cents. Mind you, this was in 1893, '94 and '95. During these three years the crops were very light. Lots of wheat was left uncut because it didn't make enough to pay expenses, and still there was no market for it. Now there is an enormously greater amount of wheat raised than in those years, and wheat sells for one dollar, sometimes more. The farmers those days said that there was nothing in it and they would have to quit wheat-raising.

Now the same question comes up: "Is there nothing in fruit-growing?" Why, these young trees that are being planted now won't produce a full crop for six or eight years yet. Maybe when they come into bearing there will be a greater demand than now.

I am an orchardist, and hearing of good orchard land cheap here, I purchased a little tract and have it all set to apples, pears and peaches. The peaches are fillers and after five or six years I'll cut them out. They will make good fire-wood, besides giving a few crops. Now, I figure that with five acres in fruit, my family and myself can care for it all. I am raising chix among the trees and by the time the orchard is bearing I'll have enough chix to pay a good part of the expenses.

I have one hundred and fifty apple-trees of standard varieties, and figuring them at eight pack boxes per tree, at say one dollar per box, they will make a good living, besides three hundred pears and one hundred and fifty peaches. If there is no market then for my fruit, I'll not be up against it as I'll have my chix and my cow, and can raise clover enough among my pear-trees to feed her, besides our garden.

As regards pears: They can only be grown in certain localities. There will always be a demand for such varieties as Bartlett and Anjou, and the apples that we raise here will always sell. If the East will raise enough fruit so we can't sell ours there, we will have the foreign markets to draw on. When the Panama Canal is finished we will have a cheap water rate.

I know there is a great fruit boom on and booming of sections of country where they will never raise fruit successfully. I know of fruit sections that freeze two years out of five and it looks to me as if, with fruit-growing limited to certain localities, there will be some demand and more in time.

The editorial was somewhat discouraging to a man who has come out here expecting to build a home and depending on fruit-growing for a living. I hope before our Eastern friends buy an orchard or start one they will investigate thoroughly, as fruit-growing is a science nowadays.

I like this man's spunk.

I wrote that editorial because I was scared by the enormous extension of the area devoted to fruit. I planted nearly two thousand apple-trees last year and I have a thousand peach-trees heeled in ready to put in next spring. I am going on with my orchard, and I shall grow "chix" in it as Mr. Lagergren does. I shall have seventy-five to a hundred acres of land for crops after I have extended my orchard to its full size. And if Mr. Lagergren is in the end a loser in his planting, I shall be in mine.

* * *

I DON'T need to say that I hope the most roseate forecast may be safely indulged in. But I should like to say a word of caution to those who are only thinking of going into the business. And at that, I may be overcautious.

I notice, though, that those who are most optimistic about the final results of the boom are counting on about eighty per cent. of the orchards being failures. I don't like to feel that eight out of every ten that go into the fruit business are doomed to failure, on account of the inherent difficulty of the raising of fruit. It is the most technical, the most difficult—and the most beautiful—branch of agriculture. It is quiet, sedate, stable and requires faith that runs from generation to generation, patience that never falters and a brotherly feeling toward trees. It takes a person who can tell by the expression of the tree's countenance when something is wrong, either underground or in the air above it. Perhaps eighty per cent. of those who are jumping into the business will so lack these and the thousand and one other necessary qualities of a horticulturist that they will fail, and that those who win will always find themselves profiting by the weaknesses of their fellows.

But this probability doesn't make me any happier. I once was solicited to buy stock in an "endowment" society that promised me three dollars for one in a few years. I told the agent that it couldn't be done.

"But you haven't figured on the lapses," said he. "Three fourths of these will lapse, and those who stick will profit by those who fall by the wayside."

"Well," said I, "I don't want to encourage any business in which three fourths of those who enter lose their hard-earned money—even if they do lose it to me. And I don't want to take stock in a deal in which I have three chances out of four to lapse and lose my hard-earned money. Good-day!"

I do know that the proportion of those disappointed in fruit-growing is going to be pitifully great. But the demand for fruit may increase. Our consumers are getting the fruit habit. As prices fall—as I think we must expect them to do—consumption may spread to classes of people who can't afford to buy now.

I don't expect to make as much money on my trees as those make now who have bearing orchards, and I don't want to—but I hope fruit won't go below the cost of production, as it will if the pessimistic are right. Wheat did so, when Mr. Lagergren was growing it in Kansas, and when I was laboring in the harvest in Iowa. Are those times past?

I give it up! But I'm a little afraid of the tendency that history has to stutter.

In the meantime, here's to Mr. Lagergren's trees! And to the trees of everybody who plants them and tends them understandingly. And may we all be given to see the right way to treat our trees—for they are the store-houses of the future and the hopes of our lean years!

Herbert Quick

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Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

FARM AND FIRESIDE

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Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXIV. No. 11 Springfield, Ohio, March 10, 1911 PUBLISHED SEMI-MONTHLY

Step high, but be sure that you have a reason to step high.

Some men learn only by bitter experience that a ton of manure on the field is worth ten in the pile.

Keep the alabaster box of hope and love and good cheer always uncovered. There are so many poor fellows all around you that think they have the hardest time in life, whose crops never quite come up to their expectations and whose lives need the help of a good, bright, all-round friend.

Make sure that the heating apparatus of your brooder is perfectly safe before you operate it. We know of the roasting alive of about three hundred chicks last spring by a home-made contraption catching fire from the lamp.

A mind may be so poor that it can get no satisfaction from the richest things, and so rich that it can get something out of the poorest.

The fanning-mill furnishes a wind that blows everybody good—the live stock with clean, wholesome grain; the consumer with a pure product for which he bargained; the farmer with a first-class product for marketing, or seed that will propagate a pure, strong and vigorous growth of plants, free from weed pests.

You can take the frost out of that frozen comb of the fowl by bathing with sweet oil, but it will never look well again. Better not let them freeze have a warmer house

If you want your nose always to be on the grindstone, make a practice of buying everything you see, whether you need it or not. But be sure that your nose will last longer than your money will.

Why Does Wheat "Quit?"

ONE of the mysteries of farming is the way wheat "quit" in Iowa and all over the central West. When this prairie soil was first broken, it grew as good wheat as western Canada now produces. In the seventies, the older regions began to have trouble with crop failures. Wheat was the money crop and it made hard times. The straw grew as rank as ever, but it blighted or rusted or failed to fill.

Some said—and it was the prevailing notion—that "something was used up out of the soil." But those who used their eyes noticed that "new breaking"—virgin soil—also failed to produce. Some said that the climate had changed—but we know that climates do not change, and that the climate of Iowa is the same now as in 1850.

And now the spring-wheat districts of Minnesota and North Dakota are having the same trouble; but the mystery seems in a fair way to be solved. Professor Bolley of the North Dakota Agricultural College, whose investigations in weed sprays have attracted so much attention, has written to the *Northwestern Agriculturalist* announcing the opinion that this failure of the wheat crop comes, not "from something gone out of the soil," but from a lot of things that have come into it—that is, parasites and the germs of disease. He asserts that there are three or four definite fungous pests that make the land "wheat-sick." He cannot as yet give any remedy, but he holds out hopes of relief to the extent of bringing back these lands to much of their old-time fruitfulness. He does, however, suggest that much may be done by proper rotation, the selection of plump, healthy seed, the treatment of all seed by the formaldehyde method, the avoidance of such tillage as to produce an excess of nitrogen in the soil, the use of phosphates and other mineral fertilizers to hasten maturity and harden the straw by balancing the rations, and has added something of the greatest value to the farm paper. He may well be given the space formerly accorded to market reports and accounts of the crops in different parts of the country; but he should not be allowed to displace the word of the "practical farmer."

One of the problems of the farm paper is to get the men who are really doing things on farms to write about them. They either think they cannot write, or they are too busy. As to the first, they are mistaken. The man who really knows a thing can almost always tell it. Some of the best articles we have had in the past year were accompanied by apologies as to bad spelling and bad writing. Such apologies are unnecessary—the thought is the thing—the fact. And as to the practical farmer being too busy to write, it would seem that he owes his fellows the encouragement of his successes or the warning of his mistakes.

Canadian Reciprocity

ON THE whole, we are disposed to take Mr. Welliver's statement of the case for and against Canadian reciprocity as fair. The agreement is as unfavorable to the farmers as it can be made, and if their interests could be sacrificed for the benefit of the manufacturers, this pact seems calculated to do it. We do not believe, however, that the American farmers' interests in the long run can be hurt by closer commercial relations with Canada. We can see some benefits from the agreement as it stands. If it results in more wheat being milled in this country, it should mean twenty-five cents' worth of fertility, in every imported bushel so milled, gained to this country and lost to Canada. The bran and other by-products of milling should be beneficial to our dairy and live stock interests. And the opening of so great an area of good grazing lands to free trade in live stock ought to solve the problem of the supply of stock for feeding purposes for a long time to come. We don't look for any appreciable hard times from Canadian reciprocity—even if it passes the Senate.

Next month will begin a thrilling detective story by Anna Katherine Green, the most celebrated writer of detective stories of the present day, author of "The Leavenworth Case," "The Filigree Ball," etc.

Don't slack up on feed now, simply because you think the live stock will live through till grass comes on. If your stock go on the grass in a poor condition, it will require half of the summer to start them growing, and they never will be the well-developed animals they would have been had you kept them in prime shape till time to turn them on pasture.

The Word of the "Practical Farmer"

THE older agricultural papers—those that were published in the seventies and sixties and before—are very interesting reading. They contain weather reports, crop reports and country-side gossip contributed by farmers in their fields of circulation. Much space is given to markets. They were published in an age when the farmers were not served as now by the daily paper and the local weekly, which are able to do news-gathering so much better than any farm paper can hope to do.

The farm paper of to-day must bring to the farmer things which he cannot get from the local weekly and the dailies. The progressive farmer now is not a man of one paper. He looks to his farm paper for the more strictly high-class, strictly practical and more highly specialized farm matter which the daily and the country weekly cannot furnish. A farm paper could no more be published by the force of a daily paper than could a medical journal. The matter in the old farm journal has been divided, and the news and gossip have fallen into other hands. It is another of the specializations of the age.

But in one respect the farm paper is much as it was; it still depends on the contributions of practical farmers for a good deal of its matter. So far as we are concerned, we always feel a thrill of pleasure when we open a letter from some man unused to writing who has a fact for us—a fact gleaned from experience. The agricultural college man has entered farm journalism with his costly experiments and his patient demonstra-

Panama Shipments Pay

A CAR-LOAD of lemons and one of oranges were recently shipped from San Francisco to New York by water and the Panama Railway. The rate was ten dollars per ton. The trans-continental rate by railway is twenty-three dollars per ton. Only seven per cent. of the oranges were lost by decay, and five per cent. of the lemons. There was a delay in the hot weather of the Isthmus because the railway was congested with business. When the canal is finished, it will not be congested. There will be no delay. The tolls will either be nil or lower than the railway rates across the neck. The time of passage from coast to coast will probably be less than that required by the cars now used. The fruit-growers of the coast may well rejoice at the prospects.

The Crisis in Illinois

WE HAVE come to look upon the Agricultural College of the State of Illinois as a great tower of strength to the cause of progress. The world-wide reputation of its professors, the fine character of its courses of study, its rapid growth in the number of its students have combined to convey the impression that in Illinois is perhaps the great college of agriculture of the future.

It is shocking, therefore, to read Dean Davenport's published statement that owing to the failure of the legislature to furnish funds, the college is facing the necessity of reorganization on smaller lines, and with crippled facilities. And Illinois so rich, so strong, so able to make her college what it should be!

We cannot believe that the legislature can be found in any state capable of failing in such a juncture. The members could scarcely claim to be men, not to say statesmen, should they do so. Surely Dean Davenport's call for help will be answered in the only proper way—by money—from the only possible source—the legislature. And we hope FARM AND FIRESIDE's Illinois readers will busy themselves about the matter with their representatives at Springfield.

You farm the crops; why not farm the children? It pays better to educate them in politeness, kindness and common sense rather than to put a little more time on the crops and have rowdy children.

Where manure is spread on the tilled field, it will be advisable to run the disk over the ground as soon as the land will do to work in the spring. This may be regarded as absolutely necessary where the manure is spread by hand, and even where the manure-spreader is employed, the use of the disk will only insure the fertilizing elements being worked into the soil more thoroughly.

Beginning next month Margaret Sangster, the most famous woman writer in America, will conduct a regular department in Farm and Fireside.

A Friend Misunderstood

The Hydraulic Ram, How It Works and Why It Balks—By Marshall O. Leighton

Jones swears by his hydraulic ram,
So busy all the day

AT SOME farms in this country the words "hydraulic ram" are tabooed. If you ever feel that man has lost the savage red blood of his ancestors and want to prove yourself wrong, go as far as you dare into the front door-yard in one of these farms, inflate your chest, stand on your toes, and shout "Hydraulic Ram." Leave the gate open when you go in because a closed gate is an obstruction when one is in a hurry. If you make a clean get-away, you will always be able to point to yourself as the man who "started something." As a hair-raising sport it takes rank with lassoing rhinos in Africa or experimenting with a gasolene stove. Why? Because a hydraulic ram that "won't work" is the meanest, sulkiest, most unreasonable promoter of red-eyed violence and profanity that ever intruded its ugly bulk into the life of a farmer. A certain farmer in the land of Uz, whose name was Job, remained righteous in spite of heart-breaking troubles. It may give us comfort to reflect that Job never owned a balky hydraulic ram.

The foregoing is one view of the matter. There is another which prevails in those places where the ram "works." There, it is the one servant who never skirks nor sojers, never complains of his bed or board, never demands wages, and throbs on like the heart of a perfect man. Whatsoever of grief, failure or discomfort may come to the farmer, he knows that there is one ever-present assurance—Mister H. Ram is on the job. Shout his name in the front yard and the farmer will raise a ladder, invite you to the housetop and give you a megaphone. Explain this difference.

Some things look so simple that few people take the trouble of finding them out. Such things are frequently extremely difficult. The hydraulic ram is one of these. Almost everyone who takes it apart thinks he knows all about it. Generally he doesn't. The ram is extremely complex, so much so in fact, that eminent hydraulic engineers are still in dispute over certain features of it. The man who thinks he knows all about it on first acquaintance generally sets it up wrong. It doesn't work and he joins the Anti-Ram Party.

What is a Hydraulic Ram?

A HYDRAULIC ram is an impulse engine or pump, which when supplied with water dropped through a pipe from a certain height, will, by the force so developed, raise a part of that water to a considerably greater height. For example, if a ram is placed five feet below a water supply and water is carried thereto through a pipe of the right size and length, a part of that water may, if other conditions be correct, be raised one hundred feet or even more above the supply. We are familiar with the physical law that "running water seeks its own level." It never seeks a higher level, but may be forced up to it. The force that raises the smaller amount of water from the ram up to the one-hundred-foot level is that developed by the larger amount in falling the five feet.

There are many types and sizes of rams. In some places specially made rams are used to raise water for the supply of fairly large towns. The ordinary farm ram is a small affair and can be purchased in the open market. Some rams are so built that they will use dirty or impure water for pumping and raise pure water from a different source. Such rams are especially serviceable where the pure water is in small amount, but where there is plenty of impure water to be used for power.

Almost every man and some women have successfully driven a nail. The hammer is raised and is brought down on the head of the nail. The hammer suddenly stops. It has fallen on the nail with the force of its own weight added to that given to it by the man's arm. Suddenly the force has left the hammer—what has become of it? It has not vanished—"gone off into thin air." That would be a violation of one of Nature's pet laws. The force of the hammer has merely passed on to the nail. As a result the nail enters for some distance into the wood.

We must go a step farther and consider some mechanical laws governing all this. Let us get them well in mind, for in a few minutes we are going to apply them to a hydraulic ram. When you strike with a hammer against an anvil or any very solid surface with a force, say of one hundred pounds, the hammer stops suddenly, and there is developed at the point of the blow a theoretical force of twice that amount, or two hundred pounds. This is a fundamental law. Force suddenly checked by an equally forceful and opposite resistance doubles the actual force instantaneously developed at that point. The mechanical law governing this is that every action in one direction must have an equal and opposite action. This does not mean that if you hammer a nail with a force of one hundred pounds, *you* are really hitting it with a force of two hundred pounds. It means on the contrary that the timber into which you are driving the nail is doing some hitting on its own account. It is resisting the blow with a force of one hundred pounds, which is saying the same thing.

Now, one of two things usually happens. First, the wood may be very hard. If it is too hard, the nail will not go into it, and the usual result is that the force is used in bending the nail. Secondly, if the wood is not hard enough to resist the nail point, the nail enters the wood; that is, the force is consumed in overcoming such resistance as the wood has. The farther the nail goes into the wood, the greater is the resistance. The nail therefore enters the wood until the resistance balances the force of the blow.

Recall now another familiar point about nail-driving. You have noticed that if a slim nail be driven into hard timber, especially if the timber be full of frost, the taps of the hammer must be light, else you will bend the nail. Why is it that a nail struck lightly with repeated taps will go into such timber, and if struck a heavy blow will merely bend and not enter for any appreciable distance?

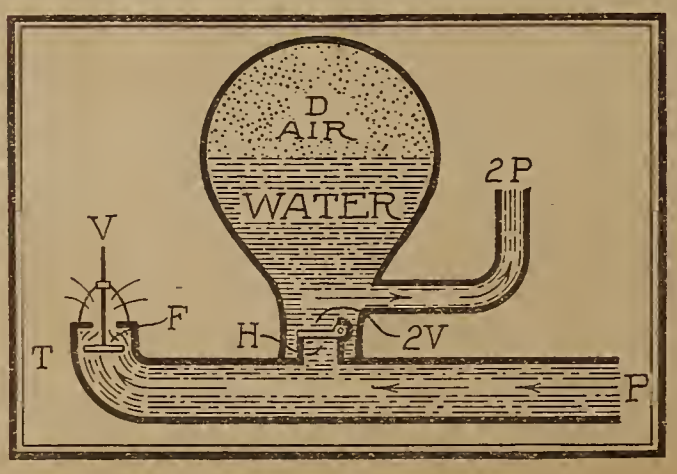
Supposing our hammer blow is equal to one hundred pounds force, and the resistance of the timber at the nail point is one hundred pounds. It is easy to see that the nail will not enter the timber. If, on the other hand, the resistance of the wood is only ninety pounds at the surface, the nail will go in and penetrate the wood until its resistance amounts to one hundred pounds. If the resistance of the wood is only eighty pounds, the nail will go in farther, and so on. For the same reason, a heavy blow will drive a nail farther into the timber under ordinary circumstances than a light blow. But supposing we have a nail, the strength of which equals one hundred pounds, and a blow of fifty pounds will drive that nail into the hard timber one eighth of an inch. Let us say further that to drive that nail one half inch at one blow requires a force of one hundred and fifty pounds. If we strike that nail with one hundred and fifty pounds of force in the endeavor to sink it into the timber one half inch, that nail must sustain three hundred pounds, that is, the blow plus the resistance. But it can't do that, because it is only one hundred pounds strong. It bends. But if we strike it with a light blow—fifty pounds—it stays straight and goes into the wood one eighth of an inch at each tap. Finally it is driven home by these light taps and we have accomplished what could not have been done by heavy blows. So much for nail driving. Let us go back to the ram.

The Anatomy of the Ra

AT THE bottom of the page there is shown a skeleton picture of a hydraulic ram. The water goes in through the "drive pipe" (P). This pipe runs along under the "dome" (D) and goes out on the other side with a "turn up" at T, on the top of which is the "waste valve" (V), which slides up and down. When the waste valve is "up," its foot (F) meets the top angle at T, and closes the hole. But as the valve is made of metal it will fall of its own weight when not pushed up and sustained by some pressure. Now the dome (D) is fastened on the drive pipe by an air-tight joint. A hole (H) extends from the pipe to dome and closing this hole is a second valve (2V). This valve works opposite to the waste valve—that is, 2V is closed when it is "down," V is closed when it is "up." Very near the bottom of the dome is the delivery pipe (2P), which extends upward. This pipe leads into the tank or reservoir into which the water is raised.

We will start the ram and assume that it is empty. Water runs from the supply through the pipe (P), and runs out through the waste valve. As the supply is higher than the ram, the water flows faster and faster through the drive pipe. Finally its velocity is so great that it presses upward on the end of the waste valve (V) and closes it. What happens? Remember that the water was rushing through the pipe (P) with an ever-increasing force and when the valve closes, the effect is to check that force. Remember, also, the hammer. It descends with an ever-increasing force on the nail-head and is also suddenly checked. The nail goes into the wood, but the water in the ram goes up through the hole (H), raises the valve (2V), and enters the dome. Do you note the similarity in these two things?

Now, on the first stroke of the waste valve the water rushes into the dome and fills it up to a certain point, rushes out into the delivery pipe and climbs up in it for a certain distance. It does not fill all of the dome. There is air in the top. As the water rushes into the dome it squeezes this air into the upper part until it is



His neighbor Thompson also swears
In quite a different way

so greatly compressed that it just balances the upward force against it and thereafter it resists further pressure. Remember what we have said about the two forces acting in opposite directions and about the timber resisting the nail. The nail could go in so far and no farther; so with the water. When the water rushes into the dome, it squeezes the air too hard. There is a return downward pressure on the valve (2V) and it closes. The water in the dome cannot get back that way, so it pushes out through the delivery pipe.

What has been happening to the waste valve all this time? It was pushed upwards and closed by the water pressure. But when this pressure is relieved by the water rushing into the dome, the waste valve drops down again. Down comes the water through the drive pipe (P), rushes out through the waste valve, and finally closes it again. Once more the water rushes up into the dome and presses against that air cushion. (We will recognize it as a cushion if we think about a "pumped-up" bicycle tire or a foot-ball.) It squeezes back the water, the valve (2V) closes and the water is passed out through the delivery pipe and up the hill to the tank.

Now, the water as it is being pushed up through the delivery pipe resists all the way. Gravity causes that. The higher it is pushed up, the greater is the resistance. How high will the hammer stroke of the ram push this water up? You may say that inasmuch as there was double force developed when the hammer hit the nail, the water in the delivery pipe would be forced upwards just twice the amount of the force given by the blow in the ram. This is true, but there is more to the story. The ram does not have to do all the work at one blow. It has repeated chances to accomplish its purpose. Think a moment about driving the nail into frosty timber. We hit it lightly; it enters a short distance at a time.

Both Simple and Complex

THE ram does the same thing. It does not push water out through the delivery pipe as fast as it comes through the drive pipe, but it stays on the job and sends some water into the delivery pipe at each tap or stroke. So it eventually raises the water to a far greater height than twice the amount of drop from the supply to the ram. Of course, there is a limit to the height at which the water can practically be driven. When the resistance becomes too great the ram won't work. Think again of the nail. You may tap as often as you please, but you can't drive a nail into a piece of steel. The resistance of the steel is too great. The same principle holds true when the ram tries to push water up too high.

We have said enough about nails, hammers and rams to show that certain principles governing the one must also apply to the other. There are certain conditions that must be faithfully established before a ram will work properly. The water supply must be sufficient in amount to operate the ram. The drive pipe must be of a proper size, and of a certain length to correspond with the amount of water, the fall from supply to ram and the lift required to place the water in the tank. The ram itself must be strong and substantial to be able to withstand the pressure put upon it. The capacity of the dome must be adjusted to the size of the delivery pipe and the delivery pipe must in turn be about one half the size of the drive pipe.

As before stated, the ram is very complex. To show this we will describe the conditions under which it will work in a certain case. Say that we desire to raise water to a tank forty feet higher than the water supply and we need two gallons per minute. The supply pipe from ram to tank is six hundred feet long. Say further that we are able to find a depression of some sort in the ground down-hill from the water supply where we may set a ram, the waste valve of which will be just four feet below the supply level. This means that by dropping the water four feet, we will raise a part of it forty feet.

We will assume another case just like the first except that the ram is eight feet below the supply instead of four feet. What sort of conditions must we have? They are shown in the following table:

Height of supply above ram	Amount of supply necessary	Diameter of drive pipe	Length of drive pipe	Size of opening in waste valve	Size of dome	Diameter of delivery pipe
Feet	Gal. per minute	Inches	Feet	Sq. in.	Cu. in.	Inches
4	43	5	460	19½	35,360	2½
8	23	3½	250	9½	17,350	1¼

[CONCLUDED ON PAGE 22]

Pioneering in 1911

Experiences on Some of Uncle Sam's Newer Farming Lands

The Lure of the Far Southwest

MANY who are still "farming it" in the East (and many who have abandoned farming to take up other occupations) are thinking seriously of the West, the Northwest, and especially of the Far Southwest, which section is, perhaps, more zealously advertised than any other part of the country. To such people this is addressed.

Read the railroad circulars, booklets and advertisements issued in all sorts of pleasing covers; take into consideration the fact that the railroads are interested principally in inducing people to buy tickets to the Southwest. Read the newspapers of the Far Southwest, who are, naturally enough, prosperous accordingly as their boosting makes the Southwest flourish. Read the magazines of the Southwest, especially those owned by the railroads, and whose reason for being is a bustling Southwest. Read this little article—then try to strike a happy medium and think for yourselves.

While your farm in Vermont, or New York, or Indiana. or Ohio, or New Hampshire, or Illinois may, perhaps, be run down, it is also true that if you spend a year or two of intelligent effort, you can do much to rejuvenate the impoverished soil.

It is equally true that in many years in the extreme Southwest not a good rain comes for six or seven months in succession!

And it is true that in Vermont, or Ohio, or New Hampshire you can dig a hole twenty or thirty feet deep almost anywhere and find good water. while it is just as true that the federal government promises some day to construct Elephant Butte dam in New Mexico, which will furnish water for irrigation purposes to a great expanse of desert country in New Mexico, west Texas and northern Chihuahua—but the water will cost those purchasing it four dollars per year for each irrigated acre.

In Ohio and Vermont and New Hampshire and New York and Indiana and Michigan you have long hard winters. In the Great Southwest you will find terrific heat. Newspaper files will convince you that in the Southwest people do not die from the heat—even when the thermometer registers one hundred and ten degrees in the shade at noon and, say, ninety degrees at four o'clock in the morning. This is true. People do not die; but one would think they would shrivel up and blow away in the first sand-storm; one has visions of men and women clinging desperately to mesquite roots to prevent their rising and evaporating in the hot thin air.

Perhaps it has seldom been written that in Arizona and west Texas a common expedient adopted by old-timers to protect themselves against the blistering heat at night is to sleep wrapped in a blanket that has been soaked in water. When the blanket gets too dry and hot, soak it again.

Now a word of cheer. In the Far Southwest—if you can get irrigation water—you raise easily four crops of alfalfa each year, and you can readily sell the alfalfa in El Paso, for instance, at about fourteen dollars per ton. The winters are positively delightful—no snow, no blizzards, no sleet, no cold weather. The sky is ever clear. For four months the air is bracing. Southern Italy doesn't offer anything to equal it.

Also in the Far Southwest, by irrigation, men raise fine looking apples, great big plums, immense potatoes, the largest of cucumbers, enormous pumpkins—but they are tasteless, or nearly so.

Another word for the Far Southwest. If you are the least bit inclined to tuberculosis in any of its many terrible phases, come to the Far Southwest! Men reach New Mexico, Arizona or west Texas, living, walking skeletons, torn with coughing, despairing and desperate. In a year, two years, they look and feel like athletes. If they remain in the Southwest, they are morally certain to live to a natural old age. If they return East or North, the disease renews its attack.

It always strikes the writer—who was born and raised on a farm and therefore has a little first-hand knowledge of his subject, and being neither farmer, nor promoter, nor railroad magnate, nor even a millionaire, is absolutely disinterested—it always strikes him as somewhat of a joke that Jeremiah Smith should leave his Green Mountains hundred-acre farm, with its fair crops, if he'll work systematically to produce them, to come to the desert country, where nothing grows naturally except coyotes and lobo-wolves and burros and cactus and mesquite and tarantulas, expecting to get rich.

The best joke of all is on the northern New York man—the man from the St. Lawrence Valley, say, who can sink a well in any fence corner and get crystal pure water—who comes down into the hot country to dry-farm!

Having read many prettily illustrated pamphlets—issued by the railroads and other boosters, of course—on the theory of dry-farming, which go on to say that crops can be expected only every other season on a given area, and so forth, because it requires that long for the ground to absorb sufficient moisture, one cannot help drawing a picture of the St. Lawrence Valley man standing in a dreary expanse of sizzling hot sand, wondering why this land, which is exactly as Nature left it, has not of its own accord produced something. One can see the prospective dry-farmer digging, first with the toe of his boot three inches, then with a shovel three feet, and finally with heavier tools thirty feet—and not a sign of moisture! He will either admire or curse the nerve of the authors of the pamphlets he has been reading.

Dry-farming is, essentially, a system of saving up scanty moisture. Our transplanted farmer has reached a region where, no matter how hard he conserves it, he can never save enough moisture to make a crop. It simply isn't there to save.

Truth having much virtue, it may be well to write a word of warning to those Eastern men who have a fancy for ranch life, who have read alluring fiction about the cowboy's romantic nomadic existence. Cattle-raising on the range used to bring wonderful sums of easy money—but with the influx of settlers, the range has been squeezed until now there are not many tracts to be obtained for love or money on which to graze five thousand head. Grass, water—the range—used to be free! Three years ago I witnessed, in southern New Mexico, a round-up of five thousand cattle. As this is written the owner of the five thousand head is in El Paso, Texas, looking for a job. He is not stranded, but he has given up the struggle. "Too many barbed-wire fences," he explains.

The Eastern farmer, or ex-farmer, is earnestly advised to watch for the announcements of the Interior Department at Washington regarding Elephant Butte dam. Here it is purposed to build an artificial lake some thirteen miles long and perhaps four miles wide, and five years, or more, will be spent in its completion.

The lake will store Rio Grande water—and this very day an old-timer said to the writer: "That water will make the finest kind of fertilizer!" So it behooves the would-be Southwestern farmer to take into consideration, along with other problems, that of drinking-water. He will hardly want to drink water which is "the finest kind of fertilizer," and in some places he may drill one thousand feet and not find water. Again, he may strike an oil-bed!

The Far Southwest is all right; but the inexperienced Eastern man who contemplates leaving home to cast his lot in the land of the burro should put on his clearest spectacles and closely investigate for himself. He will be facing unexpected conditions.

He will find that the people—the natives—are of the finest in the world! They are so patriotic that a casual observer would estimate that they spend ten cents every month to water and keep alive each blade of grass in their public parks, and a dollar for each cottonwood tree—but they do not indulge in fake boosting. This art—it is an art!—is left for newcomers, and some of them excel at it.

GEORGE SAINTE-AMOUR.

Yucca, Greasewood, Cactus—and Nothing Else
A bit of Arizona out of reach of irrigation

A word should be added in explanation of the failure of dry-farming under the desert conditions Mr. Sainte-Amour describes. Dry-farming is simply a method of economizing rainfall, applicable and a proved success in the semi-arid regions where there is still enough rain annually to make crops, if waste of moisture is cut down to a minimum. Such a system is, of course, inapplicable in regions where the total rainfall is too scanty to grow crops, no matter how it is economized.

EDITOR.

The Evolution of the Slope Country

MORE than double the acreage of last year was under cultivation this season in the "slope country," as the ten counties of western North Dakota, lying beyond the Missouri River, are called. Thousands of fields of blue-stem, fife and macaroni wheat, other thousand fields of flax on the sod, and no small amount of oats, barley, speltz and corn were patching practically every bit of the region. Even the much-maligned "bad lands" are speckled green here and there amongst the buttes with isolated farms. In the better settled portions near the main lines of railroad it is not patches, but big fields joining on four sides other big fields, making all told a cultivated area as pleasing to the eye as the famous wheat stretches of eastern North Dakota, that now make for a new landscape in the new-discovered land.

Where Stood the Sod Shack of the Homesteader Now Stands a Comfortable Frame House

"A village with grain elevators a conspicuous feature"

To an old settler in the slope country—three years' residence is sufficient to entitle one to that appellation—this sudden growth of a section that but five years ago numbered its population by the few hundreds is bewildering. One's environment changes with kaleidoscopic velocity. Yonder, where stood a ten-by-twelve sod shack in which in fearsome isolation lived a bacon-frying homesteader who talked to the cat and checked off the days of his probation on the almanac, now stands a comfortable two-story frame house with a big red barn and a real windmill. That huge expanse of unbroken prairie rolling empire-wide, sage green with tall native grasses, interrupted only rarely by the deeper hue of a five or ten acre plot of wheat or flax, is now checkered off by barbed-wire fences into quarter-section farms billowing with tall grain; there, where the Long X used to hold its round-up, stands a village with grain elevators a conspicuous feature—and hark! the toot of a locomotive, the honk of an auto, where but recently the wild whoop of the cow-puncher was the only sound that split the wind.

Buffalo pasture, cattle range, homestead, farm represent the four stages of the evolution experienced by western North Dakota in a single generation. Homesteaders, 'tis true, are still considerably more in evidence than well-established farmers, but the majority of these homesteaders expect to remain.

The day of the commuter who abandons his land the date of making proof and never crops it afterward is past. Indeed, even the day of the good-faith homesteader is on the wane, as very little public land subject to filing under the homestead law remains. About the last of it was taken up last summer. Many who have been flocking in of late have found only unattractive land available, yet so clamorous are they for one of Dakota's free farms ere the last of them are gone that they have gone back into the hill country and put up their shacks on quarter sections containing in some cases not more than fifty or seventy-five acres of tillable land. In a few localities, far removed from a

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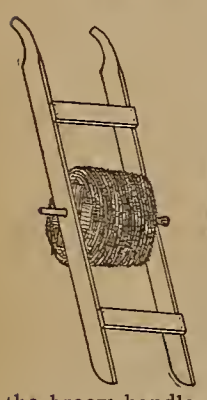
The Headwork Shop

Improved Three-Row Marker

THE sketch shows an improvement on the old-fashioned marker. The blades on each side of the runners press the ground away and leave it in better shape than a shovel. They can be made from an old cross-cut saw or plate steel. The blades flare out so they are six inches apart behind. A seat can be added, also a pole for guide from last row. We used two horses on a pole fastened just over the middle runner. Two-by-sixes or two-by-eights are used for runners, which are two feet long. A plank twelve inches wide is nailed on top of the runners, seven feet long for three rows three and one half feet apart. J. E. ELLIOTT.

Reel for Barbed Wire

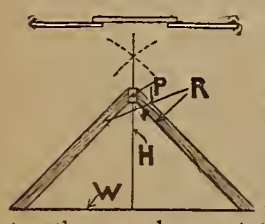


TAKE two boards one by four inches and six feet long. Slope one end of each like sled-runners and the other ends like plow-handles. Take two more pieces one by four and about eighteen inches long and nail to the side pieces a foot or so from each end to hold the frame together.

Bore inch holes through the center of the side pieces and put a broom-handle through these on which to run the reel. Leave the large end on the broom-handle, as it holds in place better and is easier removed.

One man can easily stretch wire in this way. J. L. ROBINSON.

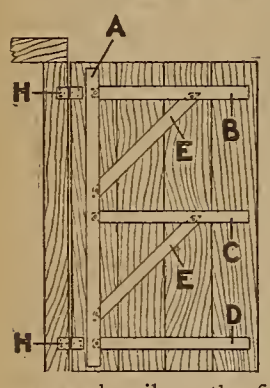
Accurate Rafter-Fitting



ON a level place draw a straight line or stretch a string (W) of length equal to the total width of the roof, and find the center of this line. Now improvise a trammel by nailing narrow strips of wood together as shown at top of sketch, driving through spikes at the ends to mark with. With this trammel strike short intersecting segments of a circle (shown dotted in the sketch) with the extreme ends of the line (W) as centers for the circle. Through these intersecting segments draw a line to the center of W. Measure off on this line the distance (H), equal to the height of the roof, and mark out at that distance the ridge-pole (P), or drive a post in the ground to represent the ridge-pole. Thus we have a full-size drawing to which the rafters may be fitted.

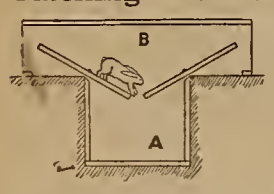
This trammel method is an excellent and accurate method of laying out a large right angle. WM. NICHOLAS.

Sagless Door-Frame



HERE is a plan for making a barn or shed door that will neither sag nor get out of shape, even after many years of use. H H are the hinges. The pieces A, B, C, D and the braces EE should be made of two-by-three-inch lumber, mortised and tenoned together, and then pinned. Stand the frame thus constructed in the doorway and nail on the first board. Then put on the hinges, using screw strap hinges, and bolt them securely to the door. After the door-frame is thus mounted upon its hinges push it shut and nail on the rest of the boards. J. M. MURPHY.

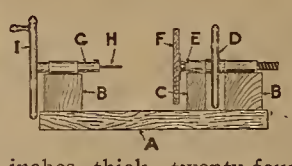
Catching Rabbits by Wholesale



THIS trap will catch any number of rabbits that come its way, and it is always set. Get a box (A) about two feet long, fourteen inches wide and eighteen inches deep, and bury it in the ground with the open top level with surface. Make a box or chute (B) four feet long, six inches wide and one foot high, open at both ends. The bottom of the chute is the trap and is made as follows: Nail short pieces at each end, leaving a space of twenty inches in the center for double trap-doors fastened, by means of two staples, to nails driven through the sides of the chute and acting as pivots. These pivots should be so placed that the doors will tilt back shut again after a rabbit has dropped through.

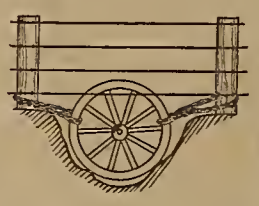
Set the chute toward one side of the underground box, so that about half the box is exposed. It can be covered with a weighted board, which is easily removed to take out prisoners without moving the chute. Bait may be hung in chute and a bundle of fodder may be placed over the whole trap to attract rabbits, though that is not necessary. B. F. WAMPLER.

A Home-Made Force Drill



HERE are directions for making a force drill for iron or wood work. The base (A) is a hardwood plank two inches thick, twenty-four inches long and eight inches wide. The blocks (BB), four by four by eight inches, are bolted to A. C is a two-by-four-by-eight-inch block bolted about two inches from B—just far enough to admit the wheel (D). For this I used the iron top of an office stool. There are threads in it where E (which is the rod from the stool) passes through. This rod slips through short pieces of pipe which are clamped to B and C. A board (F) eight inches wide is bolted to E. G is a one-and-one-fourth-inch rod which passes through a pipe clamped to block (B). The drill (H) is held into G with a set-screw. I is a large wheel with a handle. To feed, turn the wheel (D). This forces F up against the drill (H). Then turn wheel (I), which revolves the drill. WM. A. WEEDON.

Water-Gap for Small Stream



USE an old wagon or buggy wheel, according to the size of stream. Chain the wheel to the fence-posts, as shown in sketch, or to stakes. If you wish the ditch to fill up, knock off the lower edge of rim, drive the spokes into the ground and brace the upper part of the wheel.

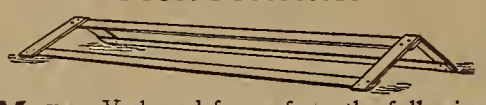
MRS. ROBERT BOWLES.

Nebraska Four-Horse Hitch

THIS hitch is useful in working old horses or breaking a team of colts. Hitch the center pair of horses in regular team manner. If the outside horses are colts, leave their halters on, and tie the halter ropes of the outside horses to the outer hame-rings of the inside horses. Now take the lines of the outside horses and snap the outside checks to their bits, but snap the inside checks to the inner sides of the hames of the outside horses. The inside checks of the outside horses then just hang loose.

Three horses can be worked in this manner by simply taking off the one horse. This way each horse has his head free to fight flies, while at the same time you have a line on each horse. NEBRASKA BOY.

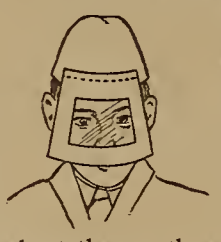
Frost-Protectors



MAKE a V-shaped frame from the following lumber: Three strips ten or twelve feet long, two inches wide and half an inch thick, and six short pieces twelve or sixteen inches long and one inch wide. Nail together as shown in cut and cover both sides and ends with cheap muslin. This can either be oiled or painted. If ordinary care is taken of these covers, they will last for years.

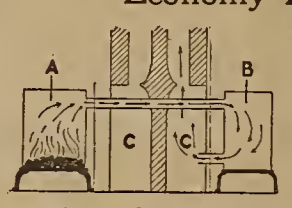
Set these over the rows at night. I find this handier than to use individual covers for each plant. CHAS. A. JULIEN.

Home-Made Eye-Shield



HERE is a protector for the eyes when one is grinding. Glass protectors are apt to become covered with moisture, but this one will not. Remove the rim from an old felt hat. Cut out a piece of cardboard of such a size that it comes down over the face to about the mouth, and cut a hole in it about four by five inches. Paste over it a piece of transparent celluloid and pin or sew the cardboard to the hat. JOE E. DOUGHTON.

Economy Heater



HAVE a tinsmith make a drum (B) about fifteen inches in diameter and the height of stove (A) to which it is to be connected. Old discarded stove-legs may be used to support the drum. Have two holes in the side of drum fitted with thimbles the size of your stove-pipe. The top hole should be the same distance from the floor as that of stove, the other one about two or three inches from the bottom of drum. Carry stove-pipe through back of chimney (CC) to upper hole in drum; then use another joint of pipe to carry the smoke from drum through the lower hole back into chimney.

This drum will heat an extra room without additional fuel. It is necessary that the chimney have a good draft. CHAS. L. SHUPING.

Sled for Breaking-Plow

TAKE a piece of sapling about four inches in diameter with a curved-up end if possible. Cut out the upper side to within six or eight inches of the end as shown in the sketch. Make a notch for nose of plow. Bore two three-quarter-inch holes in the rear, separated sufficiently to come just outside both sides of the heel of landside. Drive two pegs in these holes and the sled is finished.

You will find this an easier way to take the plow in than riding the handles. E. P.

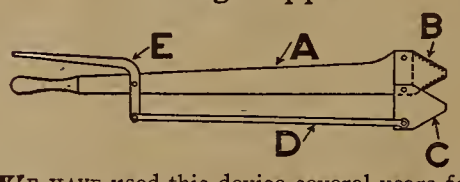
Economical Farm Ice-Box

BUILD your ice-house near the kitchen and build the ice-box right into it. A good size is four by four by six feet. Pack the ice all around this box, with the exception of the front, where the door is situated. It is not necessary to put any sawdust between the ice walls of this room. Use double doors and in the top of the door leave a three-inch vent insuring pure air. This method takes only one third as much ice as when the ice-box is built separate. H. E. WARRICK.

Strong, Though Broken

HERE is a good way to mend a broken hoe, rake or other light handle. Take a piece of tin six or eight inches wide and long enough to wrap around the handle two or three times. Wrap this tightly around the splice and drive several small nails through to hold everything solid. Smooth off any rough places with a file, and the handle is as strong as ever. E. C. CURRY.

Pruning-Clipper

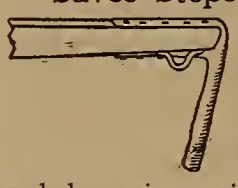


WE HAVE used this device several years for pruning trees, grape-vines, etc. The knives consisting of binder sections, one smooth (C), the other serrated (B). The serrated section is bolted on a piece of wood (A) by two bolts, one of which is long enough to go through the wooden piece (A) and both mower sections. The outer hole of the smooth section (C) is connected to a lever (E) by iron rod (D). When the cutting parts become dull, turn both sections around. EDWIN L. YOUNG.

Gunpowder Fire-Alarm

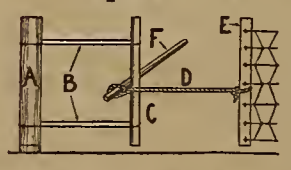
WE WERE led to adopt this scheme when one of our brooders took fire. It happened in the day-time and was easily extinguished, but it showed the need of an automatic alarm to wake us at night. We fastened three feet above each incubator and brooder a hook like bird-cages hang on, and from each hook suspended with fine wire six fire-crackers, the size about three-quarters of an inch thick, so they hang just above the machines. Daytimes these crackers are swung back against the wall. MRS. DALE HUNTER.

Saves Steps and Temper



THIS simple device prevents reins from getting caught under the wagon-pole when the team stops for a few minutes. Take about three feet of old bicycle-tire, split one end down six or eight inches and nail to wagon-pole as shown in sketch, letting the free end hang down. M. E. KENT.

Capstan Fence-Stretcher



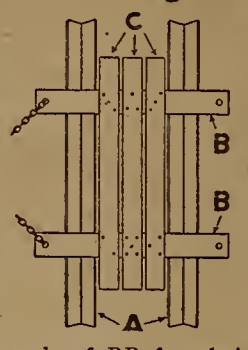
THIS device has been used on all my fences and has given much satisfaction. To the end post (A) of the fence are stapled two wire loops about five feet long (BB). A stick of round tough timber (C) turns in these loops. D represents a rope with a loop at the end and E represents a piece of two-by-four to fasten to fence.

A strong lever (F) about five feet long is inserted in loop in rope (D). Then, by walking around C, you wind up the rope and pull the slack out of the fence.

This device is not only a fence-stretcher, but can be used in felling trees or moving heavy loads a short distance.

To lock this stretcher lift lever (F) up into loop (B) and tie. LOUIS FINK.

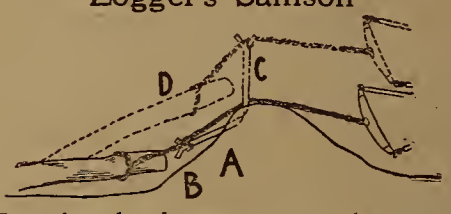
"Hog-Trough" Drag



HERE is a "hog-trough" drag used in preparing ground that surpasses any drag I ever used. Make two hog-troughs (AA) out of two-by-eight boards seven or eight feet long. Then nail two pieces of two-by-eight across top of troughs, fastening them securely together, and on top of these nail three or four boards (CCC) to stand on. Bore holes at both ends of BB for chain or rope to attach the hitch chain. By hitching to either end, two different angles on the trough can be used.

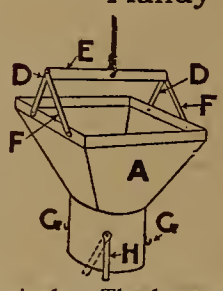
This drag mashes clods and levels the ground as well. The trough part being up, can be used for moving off rocks or for weight. D. CONGER.

Logger's Samson



HERE is a handy way to get a log over a knoll without unnecessary labor. Take a short crotched stick and drive it into the ground parallel to the log in the manner shown in the sketch at A. Then attach a chain to the log and bring the chain up through the crotch (B). Wind the chain around the crotched stick to prevent its slipping and then lead the horse ahead. The crotched stick will come up to the position (C) and bring the log to the position (D). Continue pulling and the log will be carried to the top of the knoll, ready to be snaked into place. HENRY TEWKSBURY.

Handy Bag-Holder



HERE is a handy and inexpensive bag-holder. The hopper (A) is galvanized tin fourteen inches square at the top, tapering down to the size of an ordinary stove-pipe. The wooden cross-piece (E) is two by two by fourteen inches and DD and FF are strap-irons eight inches and ten inches long, respectively. The lower ends are bolted to side of hopper and the upper ends nailed to wooden crosspiece. To the crosspiece a rope is fastened which passes up over a pulley so that the hopper can be hung any desired height.

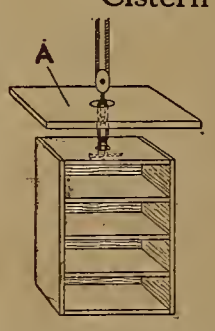
The hooks (GG) and spring (H) are riveted to lower part of hopper. The sack is slipped around bottom of hopper, over hooks, and at the front the bag is lapped over and held there by spring (H). JAY I. HARM.

Unrolling Wire Fence

RUN a chain through the roll of fence and hitch a horse's traces to ends of chain. The chain catches the stays just enough to keep all slack out of fence. This method permits going around trees or stumps and up and down hill with little trouble.

W. W. ROGERS.

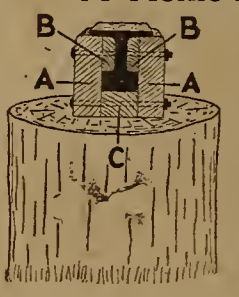
Cistern Refrigerator



FOR keeping butter, etc., cold this kind of refrigerator is good, where you have no ice. Make a box with several shelves, the outside measuring one inch smaller each way than the opening in top of cistern. Fasten this underneath the lid (A) of the cistern. The safest fastening is two or more long links of heavy chain. One of these goes through hole in top of box, and a long spike is thrust through it crossways. The upper link goes through a hole in the cistern cover and a pulley is fastened to it. By a light block and tackle the whole affair can be hoisted out of the cistern. The top of tackle can be fastened to a porch roof, or anything else that overhangs the cistern. In the absence of such an overhanging point, put a tall saw-horse over the cistern.

MRS. F. A. M.

A Home-Made Anvil



GET an oak log about six feet long and eighteen inches in diameter and set it on end two and one half feet in the ground. Now take two short pieces of two-by-six lumber (AA), bolt to them two smaller pieces (BB) and place B and B on edge, parallel with each other. Slip between these a piece of iron rail, bottom side up. Bolt BB firmly together with a piece of scantling (C) between them, which piece should be just wide enough to permit B and B to be pressed in strongly against the rail, clamping it tight. Set this on the log and a good serviceable anvil is the result. WM. BOND.

To Headworkers

THREE prizes of five dollars each are awarded for the three best contributions in each number of the Headwork Shop. The award is made by post-card vote, each subscription to FARM AND FIRESIDE carrying with it the right to vote for the three knacks the voter thinks most valuable each issue. Votes are counted two weeks from date of issue. All other contributions used in this department are paid for at our regular rates.

Contributions should be written in ink on one side of the paper and accompanied by ink or pencil sketch where a sketch is needed to bring out the idea. We suggest that contributors retain a duplicate copy, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address Headwork Shop, Care FARM AND FIRESIDE, Springfield, Ohio.

Headwork Winners January 25th

Hy. F. Nietert - Knocking Teeth Out
C. N. Lyon - - It's All in the Brace
James W. Campbell - Easier on the Team

Farm Notes

Our Experiments With Potatoes

WHEN I was a boy of fourteen or fifteen, father raised a great many potatoes, especially for this section of Indiana (Morgan County), where no attempt was commonly made to raise more than "a patch." Somehow, I always had a liking for the potato business, not so much for the long rows across the fields, nor the quantity in bushels, but for the individual potato, especially the comparison of one variety with another. Some ten years ago, when I had become old enough to "'tend a patch" for myself, my first move was that of experimenting. After a little, my brother and father also became interested, but the details were left to me.

Our first move in the experiment was to secure different varieties—not all at one time, but from year to year as we were able to secure them. We bought practically all our seed from men who made a specialty of potatoes, instead of such seedsmen as buy, instead of grow, their seed, and we bought in small lots, for fear we would devote too much ground and time to some worthless variety.

Early in our experiments we dropped Early Rose and Burbank, because the yield was poor, and too many small unmarketable tubers set in each hill. Then, too, the first early blight I ever saw appeared on this variety. Hammond's Wonderful—claimed to be scab-proof, and I have no doubt but that it is—was not grown many seasons, for the yield was poor, the tops small and it is a decidedly russeted variety.

Bliss' Triumph Tried

Bliss' Triumph, often called Early Six Weeks, Red Six Weeks, etc., has been thoroughly tested by us, and altogether we do not like it. It yields poorly, has small tops, blights easily and sets far more tubers than it can mature. One of its curious habits is that on the soils where our other potatoes do best, Bliss' does the poorest. It seems naturally better suited to a damp cold soil than to a loose and friable soil. It is a favorite for garden use in many sections of the country, on account of its earliness. That there be no mistake in the identification of this variety, I would say it is nearly round, very red, has moderately deep eyes, and you will recognize it as the first early red potato from the South in the spring at the grocery-stores. It is a favorite for the Southern trucker, but for our region at least I would advise planting it sparingly—just enough for early use.

We tried Early Puritan and Burpee's Early, and found them almost alike in earliness, yield, shape and size, being shallow-eyed, with fairly heavy tops, and they were among the last early sorts to drop from our list. We also dropped Beauty of Hebron on account of its yield and number of unmarketable tubers.

We hunted everywhere for the Old Blue Neshanook, commonly known as "Meshanick," and finally secured a few tubers. Whether they were the genuine or not, I cannot say, but they wouldn't stand the test with the newer varieties, their eyes were weak, and if the weather was wet, we got a very poor stand. They were moderately early, but their color was against them as a market variety.

Another blue potato is the Blue Victor—a real curiosity in the way it yields. Some

Early Potentate Potatoes From the Writer's Farm

years it will give more than any other variety, then for a few years the yield is poor. This, with its color, makes it an undesirable potato. Its shape is that of the Carman-New Yorker type of potatoes.

We saw the White Ohio bragged on very much, and gave it three years' trial, and, as yet, we have not found one single point to induce growers to grow it. It scabs easily, has very poor tops which are susceptible to blight, grows a great many "toey" potatoes, and the best tubers are not attractive in appearance, much less the whole crop.

The Early Ohio is a standard early potato all over the Central West, but we find that it scabs easily, a familiar occurrence with all potatoes of the Early Ohio family. It is a desirable family potato.

The Early Six Weeks—so-called—is almost identical in shape, size and yield with Early Ohio, but it is a little pinker in color, has heavier tops and in an unfavorable season scabs badly and has a great many toes. This is the last early variety we dropped from our list, and we did so because in unfavorable seasons it was hardly fit for the market.

The Early Peachblow is a new one with us. It is very early; in fact, it seems like a half-brother to Bliss' Triumph, but has a creamy colored skin, with occasional splotches of purple. It is a pretty potato, but yields poorly, and early blight affects it somewhat.

Big Ones for Western Use

Queen of the West, often called Queen of the Valley, Maggie Murphy, Commercial, etc., has been grown by our neighbors for years. We have tested it thoroughly and find it a remarkably large potato, and especially adapted to Western irrigated sections—a very heavy yielder with few unmarketable tubers. But it has very deep eyes and spreads so badly in the hill that it is next to impossible to get the tubers all at one time with a digger. They are pink, long and flat.

In the fall of 1909 we secured some very fine potatoes at a fair, which we designated as Michigan Rose. They were pink and very beautiful, but owing to the unfavorable season last year not one of the tubers resembled the parents, except in color.

Considering the money-making points, one year with another, we have failed to find any potatoes among the early-market varieties that equals the Early Potentate (some call it Irish Cobbler, and it tallies close to the description of both). It is pure white, though occasionally tubers have a slight netting or russet appearance. They are almost round, as a rule, though some seasons they grow a little longer than others, especially

White Seneca Beauties

was this the case in 1909. They are very strong eyed, though not deep, and produce the heaviest tops of any early variety and of the darkest green color. They blossom very freely, the blossoms being a pale purple, practically white.

Early Potentate Characteristics

They are seven to ten days later for us than Bliss' Triumph, planted at the same time, but make three times the yield, and side by side with Bliss' on the market will outsell it ten to twenty-five cents per bushel, this being because they are such a pure white and so large, fully grown tubers often weighing one pound or over each.

They cluster remarkably close in the hill, and taking all this into consideration, we think them by far the best early potato for market or family use, as we find their quality good.

Owing to the unfavorable season of 1910, the Early Potentate probably had a little the advantage of later varieties. At any rate, they were the best yielders and the largest of any we raised.

Our main croppers, which, of course, are classed late or medium late, are Green Mountain, White Seneca Beauty and Carman No. 3, Green Mountain being our first choice and Carman No. 3 our last.

We have not yet discovered the difference between Rural New Yorker No. 2 and Carman No. 3, though we have secured seed of both from different sources.

They are the potatoes you invariably see on the market, called "the eating potato" among the grocerymen—pure creamy white, round and flattened, with a very large stem and very thick rind. When you expose them to the light, they turn purple instead of green, the sprouts are purple tipped, and when the sprouts grow to vines, the vines have a dark purple skin, are very slender and often tumble over, making cultivation difficult.

Notwithstanding all this, they are a very hardy potato and a favorite among those who practise field culture. They keep well, ship well and look well, but their quality is poor, especially in wet soils or wet seasons.

For those who love tiptop quality on the table, no potato can down the White Seneca Beauty. They are very long, creamy white in color, though there is often a slightly russet netting. They have pink eyes, a very thin skin and are naturally a tender variety. On some soils they do much better than on others; in fact, they seem almost "choicey."

White Seneca Prize-Winners

Our White Senecas have never been beaten in any potato show in their class, for six years, until 1910, when the season was so unfavorable that they almost failed and

Genuine Green Mountain Potatoes, the Writer's First Choice

made a very poor crop. I do not mention this to boast about our winnings, but to explain how they seem suited more to some soils than others, ours being a slightly sandy clay loam, naturally very rich by years of feeding on it with hogs. However, they do very well on any fairly good potato soil.

They have heavy tops, cluster closely in the hill and are very heavy yielders, being second in yield in our experiments.

A very close relative to the White Seneca is the Red Seneca, the only difference in appearance being in color, the latter being a pink. For us they yield poorly, yet our neighbors often get large yields, whereas the men who raise fine Red Senecas seem to have poor success with the White Senecas.

But the potato that, in our estimation, tops the entire list is the Green Mountain (the genuine Green Mountain). I want to give such a close description of this potato that none can mistake it.

What Green Mountain Should Look Like

A perfectly shaped tuber is about one half the width of its length, "a half-long." The tubers are usually somewhat flattened. The skin is somewhat russety. We term it a half-russet. The eyes are moderately shallow and are evenly set over the surface of the tuber, the "seed end" (the end opposite the stem) being usually sunken. The sprouts are pure white, greenish tinted, and make the heaviest, healthiest tops of any variety we ever grew. The blossoms are pure white. The tubers do not cluster so closely in the hill as some varieties, but sufficiently close to allow clean digging.

As to hardiness, this is the last variety to succumb to the attack of insects or fungus diseases. It scabs very little and will come up regularly where other varieties drown. This last characteristic has been demonstrated on this farm two or three wet seasons. The season of 1910 is the only one since we have been in the business that we have not had a heavy yield of Green Mountain. Owing to the repeated early frosts and a drought at maturing-time they made many ill-shaped tubers and a light yield.

Now you wonder what my opinion is of the total lot. I have concluded that, if limited to four varieties, I would select Early Potentate or Green Mountain first, depending on whether I wanted an early or a late variety; my next choice would be White Seneca Beauty and lastly the Carman-New Yorker type.

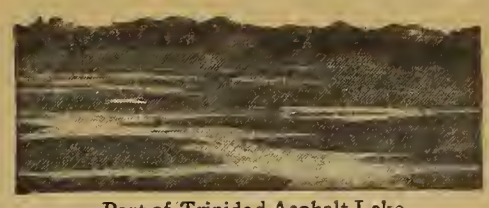
Quite often the Carmans are put off onto the unsuspecting customer for Green Mountain, so bear in mind the Green Mountain is a half-russet, while the Carmans have a pure white, smooth skin, or at most very slightly russet.

It is possible that our experiments have differed somewhat from those in other states, yet from what reports I have noted, I find these varieties doing well, and I believe, with few exceptions, they are, or would be, the leaders in the potato belt if given a trial.

OMER R. ABRAHAM.

A new bulletin, No. 184, has recently been issued by the Bureau of Plant Industry entitled "The Production of Vegetable Seeds."

What that great pioneer wheat, the Fultz, was in the seventies and eighties, the Turkey Red of Russia and western Kansas is to-day. It is now sought for west of the Rockies and the Dakotas, and in the dry-farming districts of Montana and Colorado. *



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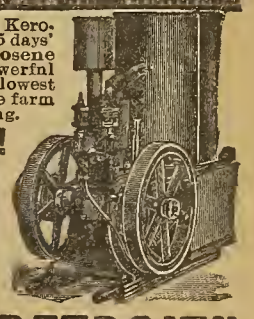

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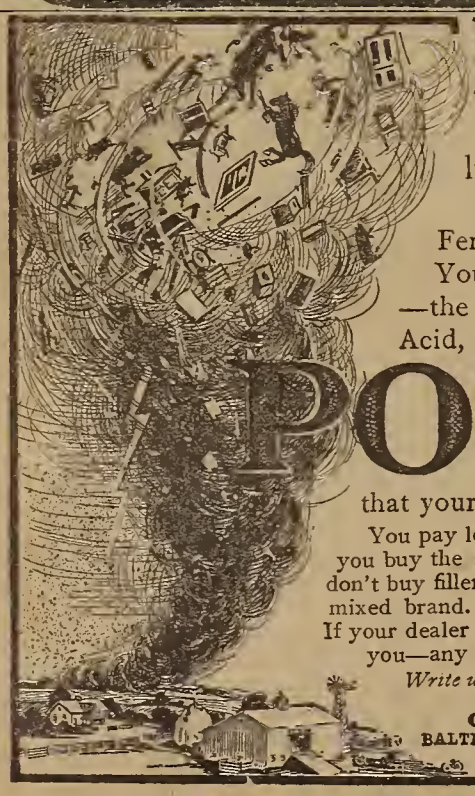

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GARDENING

By T. GREINER

Oregon Reader Wants Green Onions

FULL instructions how to grow green onions are asked for. The only thing that can now be done is to wait for the opening of spring, and by that time have a supply of sets in readiness for planting. Such sets are kept in stock by all seed stores and by most of our rural grocers. The white sets (Philadelphia Silverskin) give the best green or bunch onions. Yellow sets are more commonly found, however. As early in spring as the land can be had in good order for planting, prepare the bed and mark it out in rows a foot apart. In loose soil you can stick the sets in with the fingers, an inch or so apart. Then give clean cultivation with the hoe or wheel-hoe, and you will soon have some green onions to pull and eat or sell.

I get mine much earlier and of better quality besides, by sowing seed of the Silverskin or similar sorts about August 1st, in very rich soil, giving them clean cultivation until the fall rains set in, and wintering them over in the open so that they can finish their growth in early spring. Whether the inquirer's climate will permit this treatment, I cannot say. It is worth the trial in any climate in the least resembling ours here in western New York. Planting sets is a long and tedious job, and the green onions come in rather late, when we can have them so much earlier by other methods.

Safe Onion-Growing

An Indiana reader contemplates planting a half acre in onions, and asks whether he should use seed or sets. Some parts of the patch, a rich black loam, are a little damp at times. I would say, plant neither, at least not on a half-acre scale for a beginning. If the reader had some experience in onion growing, he would know whether to plant seed or sets. This depends on what can be done with the onions when grown, or for what purpose they are grown. We plant sets here only for green onions, seldom for dry bulbs. If to be sold for dry onions in the fall, we plant seed, or if large Spanish onions, we set plants grown in greenhouse during winter or in hotbeds toward spring. A half acre, however, is a big undertaking for anyone without considerable previous experience. Plant a little patch. That is safe. A half acre is not.

We Must Have Strawberries

I am asked about getting a start in strawberry growing. By all means get busy. I cannot see how any family who has even a little garden spot at command, can afford to do without a strawberry bed. We can afford to eat all the berries we want if we grow them ourselves. But it would take a lot of money to buy such a supply right along in the open market. To get the start, go to some neighbor who is known to you as a successful strawberry-grower, and bargain with him for a supply of good plants. When the time comes to dig the plants, get them freshly dug and plant them as soon as the ground is in best condition for planting. Plant them in rows four feet apart so they can be cultivated by horse, and will have room enough to form a good matted row, say a foot wide.

What varieties to plant? I am unable to advise you. A variety may do ever so well in one locality, and be almost worthless in another. Ask your successful neighbor, or your nearest nurseryman. Then try several of the most popular sorts they recommend. But plant strawberries anyway.

Peanuts for Northern Growers

If you have a nice warm sandy loam that is well supplied with lime, and your seasons are usually such as will bring an entire crop of tomatoes or melons to maturity, you might safely try a few peanuts. It is an interesting plant, and will please the children, big or small. There is one variety that holds out some promise for the more northern states (north of Virginia). That is the small-podded "Spanish." Nearly every large seed house offers them. The pods grow closely around the roots and are pulled up with the plant when mature. Make the rows three feet apart, slightly ridged, putting a filled pod every foot or so in the row. Give clean cultivation, and when the pods begin to form draw the loose soil up to the rows with the hoe. If soil lacks lime, apply it before planting.

Cotton-seed Meal as Potato Fertilizer

A New York State reader asks about cotton-seed meal to be used in combination with commercial fertilizers for potatoes on a gravelly loam, also what mixture would be good for that crop on heavy loam?

Cotton-seed meal has a little over six per cent. nitrogen, besides small amounts of phosphoric acid (about one and one half per cent.) and potash (less than one per cent.) I have never experimented with it, but undoubtedly the nitrogen in it becomes only slowly available. In potato-growing I always aim first for a strong top growth. When I get the tops, I am reasonably sure of getting a good yield of tubers. For that reason I want a fair allowance of ready nitrogen. I could get it by using nitrate of soda, but prefer to have it already in the soil from the year before. That accounts for our preference for clover sod. We aim to get a good growth of clover by using fertilizers, if any, on the clover. Clover gives us plenty of nitrogen in its best form for potatoes, even without the use of much nitrogen in the manure or fertilizer.

If a complete fertilizer is used, the addition of cotton-seed meal would hardly be required. But I often use only acid phosphate and muriate of potash, either for the clover or for the potatoes, and in that case a few hundred pounds per acre of cotton-seed meal would probably show good results.

On heavy loam, first grow a crop of clover, then oats or corn, and then potatoes. Or if the clover sod can be worked up fine enough, potatoes might be planted on it without interposing another crop between clover and potatoes.

Starting Plants in a Hotbed

Questions on hotbed-making, such as are asked by a Dayton (Ohio) reader and others, are now timely. Heating horse-manure underneath, a frame on top, five or six inches of soil inside, on the manure, and glass sash to cover—that is all there is to a hotbed. Get it ready in March, and sow seeds of peppers, tomatoes, egg-plant, cauliflower, early cabbages, early lettuce, etc., without much delay. I prefer to start these plants in flats—boxes three to four inches in depth, filled with rich fibrous loam, and set directly on the fermenting manure in the hotbed. When the plants are well started, we can take the flat out of the hotbed and set it into a cold-frame (frame without manure underneath) for the plants to harden, and then be pricked out and set singly, proper distance apart, perhaps one and one half or two inches each way, into other flats. Celery plants should also be started now.

Most Popular Potato Varieties

New York is a big potato state. In Steuben County alone, the largest potato county in the state, twenty-six thousand acres were grown in 1900. And there are many other counties with large acreages. According to what Professor Stewart of the Geneva Experiment Station tells me, Irish Cobbler is unquestionably the leading early variety in the state, while the principal commercial late varieties now grown are Rural New Yorker No. 2, Sir Walter Raleigh and Carman No. 3. Green Mountain is grown quite extensively in the extreme northern part of the state.

The potato specialists in the state, however, grow a large number of new sorts, and each grower seems to have his favorite or favorites. Among such sorts we have Gold Coin, Delaware, Astonisher, Pan-American, etc. The late potatoes are the ones mostly grown, and the professional growers plant early sorts, such as Irish Cobbler (or Eureka), Ohio, Bliss' Triumph, etc., only for home use or for local trade. The World's Wonder, a very large potato and a big yielder, and not of bad quality, is largely grown in the northern part of Ontario County. The Freeman, a medium early sort of exceptionally fine quality, is gone almost entirely out of cultivation.

Spread Commercial Fertilizers

A horse will eat oats from a heap. We cannot feed plants or trees that way. It is dead wrong to pile manure up to the body of a tree, although the bulk of the manure is not lost, as the plant-foods will be soaked out by rains and finally find their way into the soil and to the roots of the trees. The better way is to let the trees and plants feed as the horse feeds while on pasture—over the whole ground.

Old Potato Varieties

A Missouri reader asks about the Snowflake potato, and whether it is like Rural New Yorker, also about the White Elephant, and where these sorts might be obtained. The old Snowflake was a good potato, very much like the newer Freeman, but not like the Rural. I have not found the former on any of the lists of seed-potato growers that have come to my table thus far this year. Maule and perhaps other seedsmen offer the Freeman. Neither have I been able to find the White Elephant, although I believe a few growers in the northern part of Ontario County, New York, still grow it. It seems to be a reproduction of the Beauty of Hebron, only larger and later. Both sorts are of exceptionally good quality, dry and mealy. You may generally come across the advertisement of a grower who makes a specialty of growing many varieties, old and new. The Empire State, also a fine potato, is said to be a seedling of the White Elephant, and is listed by a number of dealers.

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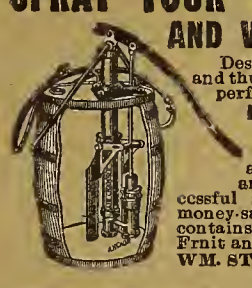

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Fruit-Growing

The Highroad to Appleland

Practical Hints on Starting an Orchard

THE phenomenal growth of the fruit industry in the Pacific Northwest during the past few years has not alone been due to improved business methods of packing and marketing. Nor has it been due to the cool nights, the warm days and the amount and intensity of the sunshine. Other factors have been instrumental in promoting this rapid advancement. The Western growers have, first, exercised care in selecting varieties best adapted to their localities; secondly, they have paid particular attention to the types of soil best adapted to these varieties; thirdly, they used judgment when selecting the proper location as regards site, slope, irrigation, transportation, etc., and, lastly, they were careful in planting. When it comes to planting a commercial orchard the prospective grower should thus "make haste slowly." Mistakes made in fruit-growing are generally irreparable. It is the object of this paper to give such advice as the progressive growers in this section have, by common experience, demonstrated to be practical and useful.

Locate Right—Orchards Can't Move

The proper selection of a site is vital to successful orcharding. Faulty selections have not infrequently been made in the Northwest by growers or speculators, and the result has been failure. When choice is permitted, the orchard should be on a more elevated spot than the surrounding country. This insures good air drainage, as well as good soil drainage. As cold air settles to the lower levels, low places are more subject to frost, hence low-lying basins or pockets or practically level places should be avoided.

Careful attention should also be given to the selection of suitable slope. In the Pacific Northwest the northern and eastern slopes have been found to be preferable for apple-orchards, for the following reasons: (1) The soils do not become warm until late in the spring and this retards the blooming period; (2) a better protection from the prevailing winds can be had; (3) the soils are usually deeper and richer. These conditions apply more specifically to sections having a long growing season. Where the growing season is short, a southern exposure may be preferred, as the larger amount of sunshine brings about an earlier ripening of the fruit. Higher color is sometimes obtained from southern slopes.

Soil and Water

In irrigated regions the apple-plantation should, of course, be located with special reference to irrigation. It is essential that the ground be finely pulverized and all high points lowered and depressions filled before the trees are planted. If these precautions are observed, no trouble will be experienced when running water through the irrigation ditches. Too steep grades should be avoided.

As regards soils, light loamy soils with deep and porous subsoils are, generally speaking, best adapted to the growing of the apple. As the character of the soil influences to a certain extent the character and quantity of the product, the grower should keep in mind this fact when locating the fruit-plantation. He should select a soil suitable to the varieties he wishes to grow.

Proximity to water is important. Orchards located near lakes or large rivers are less liable to injury from radical climatic changes than those farther away. Near large bodies of water the development of vegetation in the spring is retarded and the season is extended in the fall. Immunity from late spring frosts is practically insured.

An Outlet for Your Product

Nearness to a shipping station is a point to consider in selecting a location for an orchard. As fruit is usually grown for distant markets, it is well to locate where there are competing lines of transportation, which usually enables one to secure cheaper rates.

One of the first and greatest problems confronting the prospective grower is the selection of the proper varieties for commercial planting. Several factors, such as soil, climate, etc., must be taken into consideration. A variety that does well in one section probably will not do equally as well in another, and the grower should confine his attention to the varieties that flourish in his locality. Nothing is gained by lamenting over the fact that a certain variety cannot be grown that is bringing such handsome returns in another section.

The market demand is another factor in the choice of varieties. The apples that find readiest sales are those that are fairly large and highly colored. The American people prefer a highly colored apple. Many of the yellow sorts, however, are selling remarkably well, especially in the English markets.

In starting the commercial orchard, the grower should insist on having nothing but first-class trees, no matter if the initial cost is a little greater. It is seldom economy to buy cheap trees. The following points constitute a first-class tree:

1. A well-grown medium-sized specimen.
2. A tree having characteristics of the variety.
3. A tree that is healthy and free from injurious diseases and insects.

If the grower is not familiar with the variety he wishes to purchase, it will be well to deal through a reliable, well-established firm in his locality. It is then generally safe to rely upon the nurseryman's judgment, for his business reputation rests upon the service rendered.

As regards the age of trees to plant, Eastern writers have been, and are now to a certain extent, advising the selection of two and three year old trees, though some Eastern growers are now taking to younger trees. In the Pacific Northwest, however, experience has proved that the one-year-old tree is best adapted to the conditions. Successful growers prefer one-year-old trees for the following reasons:

1. Young trees make a more vigorous growth than older ones.
2. In removing from the nursery less of the root system is left.
3. With the root and stem system intact, the transplanted tree does not receive such a severe shock.
4. The head can be formed at any height to suit the convenience of the grower.
5. A better yield is obtained.

One-Year-Olds Win in Test

The difference in yield between one, two and three year old trees, five years after planting, is graphically shown by the results with three groups of Rome Beauty trees, planted by the Idaho Experiment Station five years ago and grown under like conditions of soil and climate. The one-year-old trees, five years from planting, yielded an average of 19.9 pounds per tree, and, out of the group of five trees, the best yield was 34.5 pounds and the poorest 8.5 pounds. Of seven two-year-old trees, five years from planting, the best yielded twenty-three pounds and the poorest six pounds, the average being seventeen pounds—only 2.9 pounds less than the one-year-olds averaged. But from the group of four three-year-old trees, five years from planting, the best yield was twenty-three pounds, the poorest four pounds and the average 14.5 pounds—over five pounds under the average for the one-year-old trees. We can readily see from these results why growers prefer to plant one-year-old trees.

The ground should be put in the best possible tilth before it receives the trees. Many prefer to prepare their land in the fall. The ground then catches and holds the snows and rains of winter, it is exposed to the ameliorating effects of frosts and the subsoil becomes more firmly settled. When plowed in the fall the ground is in much better shape for the spring planting.

Both fall and spring planting are practised in the Pacific Northwest. Spring, however, seems to have the preference, since in many sections the falls and winters are

[CONCLUDED ON PAGE 10]

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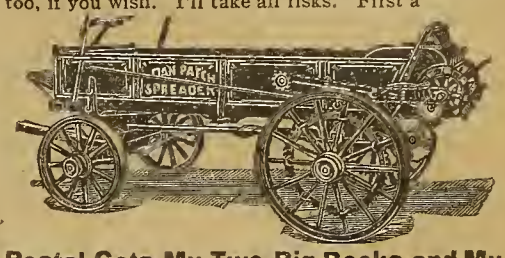

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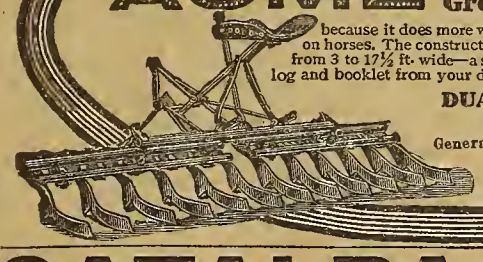

because it does more work in the same time than any other Harrow and with the least strain on horses. The construction is steel and iron. Every part warranted. Sizes are from 3 to 17½ ft. wide—a size for your requirements. Get our combined catalog and booklet from your dealer, our General Agents or the home office.

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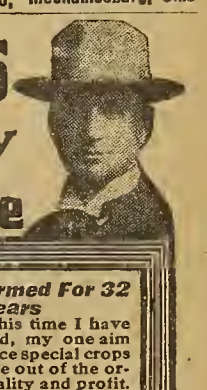
CATALPA SPECIOSA TREES Mine are true to name. Free booklet tells all about the 150 acres I am growing for telephone poles. **H. C. ROGERS, Box 148, Mechanicsburg, Ohio**

Crop Specialist Tells How To Make Your Land Pay $500 TO 1200 Per Acre



That may sound like a story—but I am here to tell, to show and to prove that a profit of from $500 to $1,200 per acre is within the reach of every farmer or grower in the country. I have made this remarkable record on my farms for several years—other farmers who have adopted my methods are also succeeding—the same success is within your reach. The secret of this wonderful profit is scientific and intensive farming, special preparation of soil and the growing of special crops.

Write For My Two Free Books

Book No. 1 is my intensive farming book, not a catalog, published to sell for 50c; send and get it now free; tells of my experiments and experience for the last 32 years. It has taken 32 years to write and to complete it. If you will at least spend 32 minutes reading it it will prove to be the most profitable time you ever spent. This book explains my special method of soil preparation, how to rotate crops, how to make your land pay big profits as I have done by growing my Grandpa's Pride Globe Onions which have produced an average profit of $15,000 on 40 acres and other special crops.

Book No. 2 gives the history of the Alton Improved Red Raspberry which has produced an average profit of $1,200 per acre on account of its remarkable size, flavor, long fruiting season and vitality.

Write for my books today, they are free and will interest the man who is looking for big profits.

A. O. GILBERTSON, CROP SPECIALIST,
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I Have Farmed For 32 Years

During this time I have experimented, my one aim was to produce special crops that would be out of the ordinary in quality and profit. One of the most successful experiments was with raspberries. Instead of growing the ordinary variety and taking an ordinary profit I propagated a special variety now known as the Alton Improved Red Raspberry that has stood the winters of Northern Minnesota, North and South Dakota and even as far north as Canada, without the least winter protection. The Berry is especially remarkable for its size and delicious flavor as well as for its long fruiting season, which on an average extends over a period of three months. If you only have a city lot or if you have a farm investigate this wonderful, large, delicious berry now.

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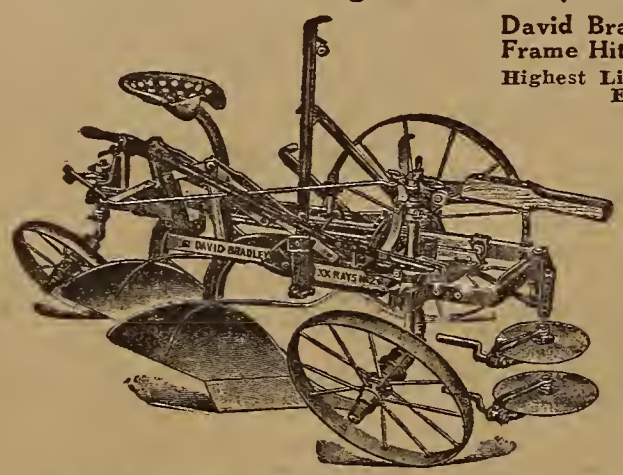
WHEN you buy David Bradley plows you don't pay for the Bradley factory's eighty years' experience in making plows for every kind of soil in every state. That experience is worth a lot to you, but you get it for nothing. No matter where you farm, or in what kind of soil, you'll find in the Bradley line a plow expressly designed and built to meet your requirements.

¶Our purchase of the great David Bradley plant has revolutionized prices on these famous farm tools. The Bradley reputation for *quality* and our celebrated money back guarantee are invincible arguments to any farmer.



David Bradley XX-Rays Frame Hitch Gang Plow, $47.50

Highest Lift, Lightest Draft, Most Easily Handled.

High, heavy, dust-proof wheels, with Bradley patent hubs; 9 inches wearing space on all axles.

Simple and effective foot lift; any boy who can handle a team can do the work of a grown up man and do it as easily. High lift; point of share raises 6 inches from ground.

Frame of heavy high quality steel, strongly braced. Cannot spring out of shape, even in hardest ground. No friction on plow bottoms. Frame and bottoms carried on the wheels, not frame and wheels carried on the bottoms as you find in other plows.

Unequaled for side hill work, because pole and both furrow wheels can be adjusted from the seat by a lever on pole plate while team is in motion.

Best plow for stony land; when it encounters a stone of any size, plow bottoms will raise over it without damage and re-enter the ground immediately. Unnecessary to lock bottoms in ground; suction holds them there.

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Bottoms are the celebrated Garden City Clipper shapes, the most perfectly formed shapes known. All bottoms double shinned. A shape for every state in the Union. Guaranteed to scour.

This is but one of the many styles of David Bradley riding plows. We make other models; frame or beam hitch, sulky and gang plows, disc plows, wood and steel beam walking plows of every description.

¶Refer to our big General Catalog for pictures, complete descriptions and prices of David Bradley Plows, Harrows, Planters, Cultivators, etc., the farm tools backed by eighty years of knowing how; or send today for our Book of David Bradley Farm Implements.

We can always supply promptly any repair part for any Bradley implement, no matter when or where bought.

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100 Per Cent.

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The United States Separator is built to **skim perfectly.** It *does* skim perfectly. It is built to wear for a generation. It *does* wear for a generation. It is built to give the utmost satisfaction, at the lowest price at which complete satisfaction can be bought. That it does this, thousands of users are glad to tell.

Will you be one of the fast-growing number of dairymen who have separator perfection in their dairies? A post-card today will bring you the "honest truths." Ask for Catalogue No. 69.

Vermont Farm Machine Co. Bellows Falls, Vermont, U. S. A.

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IN EACH TOWN and district to ride and exhibit a sample 1911 Model **"Ranger"** bicycle furnished by us. Our agents everywhere are making money fast. *Write at once for full particulars and special offer.*

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LOW FACTORY PRICES We furnish the highest grade bicycles It is possible to make at one small profit above actual factory cost. You save $10 to $25 middlemen's profits by buying direct of us and have the manufacturer's guarantee behind your bicycle. **DO NOT BUY** a bicycle or a pair of tires from *anyone* at *any price* until you receive our catalogues and learn our unheard of *factory prices* and *remarkable special offer.*

YOU WILL BE ASTONISHED when you receive our beautiful catalogue and study our superb models at the *wonderful low prices* we can make you. We sell the highest grade bicycles at **lower prices** than any other factory. We are satisfied with $1.00 profit above factory cost. **BICYCLE DEALERS,** you can sell our bicycles under your own name plate at double our prices. Orders filled the day received.

SECOND HAND BICYCLES—a limited number taken in trade by our Chicago retail stores will be closed out at once, at **$3 to $8 each.** Descriptive bargain list mailed free.

TIRES, COASTER BRAKE rear wheels, inner tubes, lamps, cyclometers, parts, repairs and everything in the bicycle line at **half usual prices.**

DO NOT WAIT—but write today for our *Large Catalogue* beautifully illustrated and containing a great fund of interesting matter and useful information. It only costs a postal to get everything. **Write it now.**

MEAD CYCLE CO. Dept. D-83, CHICAGO, ILL.

Garden and Orchard

The Highroad to Appleland

[CONTINUED FROM PAGE 9]

rather dry. This is usually detrimental to fall-set trees. By heeling in the trees in the fall the roots become thoroughly calloused, and on transplanting in the spring respond with an excellent growth.

The grower has the choice of several systems of planting. He should decide on the one best suited for his purpose and lay off the land beforehand, as it usually involves considerable labor. The systems in general use are (1) the square, (2) the hexagon, (3) the quincunx and (4) the contour. The square system of planting is preferred in many sections, as it constitutes the simplest method of arrangement and is very satisfactory from the point of convenience of cultivation and general appearance. The usual distance of planting in the Northwest is thirty feet, which gives the trees ample room for their fullest development. This is less than the customary distance in most Eastern fruit regions.

The treatment at time of planting has a marked influence upon the welfare of the tree. The roots should be very carefully pruned by removing all bruised and mutilated pieces and interlacing roots. In order to establish an equilibrium between tops and roots, part of the top should also be removed. Since low-headed trees are preferred, the necessary pruning of one-year-old trees is sufficient to reduce the top.

Holes should be dug large enough to accommodate all the roots and deep enough so that the tree can be set about three inches deeper than it was in the nursery. By planting deep a deeper root system is developed and the tree becomes more firmly set. When removing the dirt, the usual practice is to place the surface soil in a pile by itself. This soil is placed around the roots of the tree, as it is rich in plant-foods. The soil in the bottom of the hole should be finely pulverized.

Don't Lose the Place

By means of a tree-locator the tree can be placed in its exact position in the hole. A good type of locator is a six-foot board with a notch at the center and holes at the ends. This is put down with the notch at the mark or stake which indicates where the tree is to go. Small stakes are then put through the end holes. When the hole is dug and the mark for the tree is thus lost, it can be found again by putting the locator over these end stakes and setting the tree at the notch.

The roots are now spread out in all directions and the surface soil placed firmly around them. By moving the tree slightly up and down the soil may be worked under the roots. When the hole is about half full, the soil should be tramped down firmly. After filling, a few shovelfuls of loose soil are thrown around each tree to prevent excessive evaporation and the operation is complete.

If the trees are planted in the spring the tops should be removed while in a dormant condition, for such an operation encourages wood growth. The top should be removed to within thirty inches of the ground. Four to five scaffold limbs are all that are needed to form a well-developed head. The first branch is allowed to come out fifteen inches from the ground, leaving fifteen inches for the distribution of the other three branches.

Most growers in the Pacific Northwest strive to produce a strong, stocky, symmetrical, open-topped tree during the first four or five years, by systematic pruning. The first four or five scaffold limbs are allowed to grow without molestation to start with, but the second year at least one third to one half the current year's growth should be removed. This makes them grow strong and stocky. Laterals will have developed the third year which must be shortened and some removed, and all crossing and broken limbs taken out. From three to four side laterals on each main branch are allowed to develop and all others removed. Again at this time one third to one half the current year's growth is removed.

Later prunings should be of such a nature that by removing all crossing and broken limbs, the top will still retain its symmetrical form, thus permitting full circulation of air and sunlight.

C. C. VINCENT.

Japan, which has heretofore depended largely upon soja-bean cake as a source of nitrogenous manure, will now be likely to substitute nitrate of soda, as there is now a subsidized Japanese line of steamers to Chili.

A Maryland correspondent says: "For a double-barreled truck crop plant Bliss' Triumph potato, as early as you can. When they are ripe, dig them, and plant Kentucky Wonder beans at once. Give them good cultivation and you will get two paying crops off the same ground, and can seed it to grain in the fall, or plant onions, fertilizing with hen-manure."

10 Cherry Trees for $1.95

SPECIAL OFFER

This very special collection of 10 Hardy Cherry trees will be sent you for $1.95. The selections were made by Mr. Green personally, as the result of his 30 years' experience as a successful fruit grower. Here is the list—there is none better—all gilt-edged, first-class, largest size, 2-year-old trees—and all for $1.95.

One Dyebouse, three Early Richmond, five Montmorency, one English Morello. The true value of these is $2.25 according to Green's "Direct to you" Prices, but others would charge you much more.

Here is another—a Plum—bargain: Six first-class Plum trees, medium size, worth $1.50; Green's "Direct to you" price, $1.00. The varieties are as follows—1 Burbank, 1 Abundance, 1 Niagara, 1 Bradshaw, 1 Lombard, 1 York State Prune—six in all.

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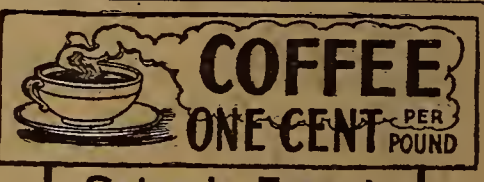
There are many other Bargain Collections of trees to be found in our 1911 Catalogue—larger, finer and better than ever before. Every tree we send you is first-class, thrifty, north grown, triple inspected and guaranteed true to name.

We sell direct—have no agents—and our prices are only one-half what agents charge. Read this: "My trees arrived in good shape. They are fine, better than some of my neighbor's trees which cost twice the price I paid."

Send today for our 1911 Catalogue to convince yourself. We will also send you free our souvenir book, "30 years with Fruits and Flowers."

GREEN'S NURSERY CO., Box 19, Rochester, N. Y.



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Salzer's French Bean Coffee

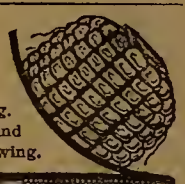
(SOJA HISPIDA)

A wholesome drink! The healthiest ever; you can grow it in your own garden on a small patch 10 feet by 10, producing 50 lbs. or more. Ripens in Wisconsin in 90 days. Used in great quantities in France, Germany and all over Europe.

Send **15** cents in stamps and we will mail you a package giving full culture directions, as also our Mammoth seed catalog free; or send **31** cents and get, in addition to above, 10,000 kernels unsurpassable vegetable and flower seeds—enough for bushels of luscious, different vegetables and brilliant flowers.

JOHN A. SALZER SEED COMPANY
119 South 8th St. La Crosse Wis.

Gregory's Improved Original Crosby Corn



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GREGORY'S HONEST SEEDS

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Cultivating Methods

There is no denying the fact that methods of cultivating vary. Some farmers cultivate shallow and others deep. Of course much depends upon soil conditions. But there is one thing certain and that is that the cultivation should be thorough and the weeds kept down. It is also a fact that soil conditions and the "lay of the land" has forced cultivator manufacturers to build many types of machines. One of the most complete lines of cultivators on the market is the Buckeye, manufactured by The American Seeding-Machine Co., Incorporated, Springfield, Ohio, and the farmer can get any style he needs—Buckeye Adjustable Arch Walking Cultivators with rigid or parallel spring shovel beams, Buckeye Sunbeam Walkers with adjustable arch and spring teeth or with side harrow attachment, Buckeye Sunbeam Adjustable Arch Balanced Frame Walkers, Buckeye Dodger Pivot Axle Riding Disc Cultivators which are the best hillside disc cultivators on the market; Easy Buckeye Riding Cultivators with pin or spring shovels, Buckeye Pivot Axle Riding Cultivators equipped with long or short axles, having four, six or eight spring trip or pin break shovels or spring teeth beams with ten spring teeth, acknowledged to be king of all shovel cultivators; Buckeye Hammock Seat Cultivators in all styles and sizes; the new Buckeye Narrow Row, that has such great latitude as to width of adjustment that it will take care of any narrow row crop and the wide row as well. Parties who contemplate the purchase of a cultivator should send to The American Seeding-Machine Co., Incorporated, Springfield, Ohio, for their cultivator pamphlets and then go to their local implement dealer and insist on seeing the Buckeye. Remember that these tools are sold under a warranty that amply protects the purchaser—a guaranty that no manufacturer would dare to make unless his goods were absolutely right.

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If you love Flowers write me a letter (not postal) for **Park's Floral Guide**, teeming with floral notes, pronouncing the big flower names, giving a germination table, showing nearly 1000 flower pictures. It's different. It insures success. Be sure to see it. **Best seeds at lowest prices.** 42d yr.

5 Fine Gloxinias, 5 colors, 25c
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10 Pkts. Choice Flower Seeds, 10 cts.

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Beet, Imp. Early Turnip. | Onion, Danvers Yellow.
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Cabbage, Late Flat Dutch | Radish, Special Mixture
Cucumber, White Spine. | Tomato, New Matchless.
Lettuce, Malta Drumhead | Turnip, Purple top Globe

Send 10c for either lot, or 20c for both. Or, send 60c for club of three (60 pkts.) and I'll add four 2-oz. pkts. (worth 40c) Best Sweet Corn, Beans, Peas and Squash, also, trial subscription to **Park's Floral Magazine**, which cheers and brightens more than **600,000 homes every month.** Six lots (124 pkts.), $1.00. Club with friends.

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1 Pkt. Asters, Floral Park Mixture
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SEND ME 10 CENTS

and the addresses of two flower-loving friends and I will send you 30 seeds of the **Giant Marguerite Carnation** which blooms in 4 months from sowing; also my bargain collection of *Royal Show Pansies* 100 colors; *Sweet Peas*, over 40 varieties; *Asters*, finest mixed; *Nasturtiums*, 20 kinds. Also "Floral Culture" and my handsomely illustrated 18th Annual Catalog.

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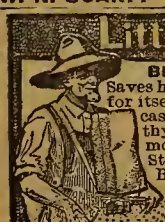

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Garden and Orchard

Sprays May Kill Bees

FOREHANDED orchardists are now figuring on their spring spraying for the codling-moth. In this connection there is one point that deserves early mention in view of the very general doubt that prevails regarding it.

Will not the spring spraying, as a defense against codling-moth, kill off the bees that may be among the blossoms? One of our subscribers puts it: "It has been recommended to spray with arsenate of lead solution when the petals fall. There are almost always some late blossoms hanging on, and in our orchard last spring the bees were thick around them. Will not the spray kill the bees that are necessary for carrying the pollen that fertilizes the blossoms—a service essential to the production of fruit?"

Arsenate sprays, according to good evidence, will kill bees. The solution of the problem is not to omit the spraying, but to withhold it until not only most of the blossoms, but all of them are off. The accompanying cut, reprinted from Professor Green's fruit column in this paper, two years ago, shows apple-blossoms at the right stage for codling-moth spraying. It is even safe to let the little "apples" develop a trifle further before applying the arsenate.

Prof. H. A. Surface of Pennsylvania State Agricultural College says in this connection:

"It is very important, not only for the sake of the bees, but also for the sake of

Spray for Codling Moth When the Blossoms Look Like These

the fruit, that no spraying be done on any blossoms that are expanded, and which are in condition to be visited by bees. No real fruit-grower ever sprays his trees while in bloom. The spraying should be done just after the blossoms fall, but not while the flowers are open. It is liable not only to kill the bees, which are essential in carrying the pollen from flower to flower, and thus insuring a good crop of fruit, but it is also liable to destroy the setting of the fruit itself, to spray the blossoms."

Melon-Plants for Small Patch

LAST spring we secured common No. 2 salmon-cans, set them in the fire till the bottoms could be removed, and clipped them midway between the two ends. These pieces were then set in a box of fresh dirt, filled to within a half inch of the top with a mixture of poultry-manure and fine soil, and from six to eight watermelon seeds were placed in each one and covered with dirt.

We kept the box in the house, sprinkling water over the cans daily and stirring the soil. The box was set in the south window during the day, and protected from chilling at night by covering it with a cloth. On warm days it was set out in the open air and sunlight. We watered often, but were careful not to get the soil too wet. Care must also be taken that the box is not placed too near the fire, which would injure the seeds and dry out the soil.

Just before the plants came through the dirt, we prepared hills in the truck-patch the usual way, spading up a space about eighteen inches across and mixing in several handfuls of poultry-droppings and fine stable manure. Each can was placed gently in a hole in the center of the hill, and the can lifted gently from around its contents.

By this plan, a strong, vigorous germination is assured, unless the weather turns wet and cold. Again, seeds thus sprouted are not so apt to be destroyed by bugs as they are when planted in the open hill at the start.

M. COVERDELL.

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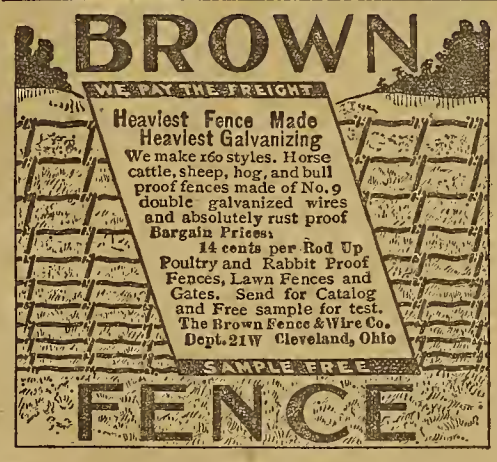

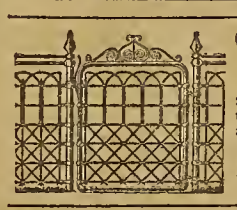

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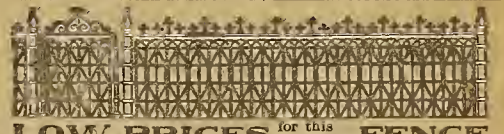

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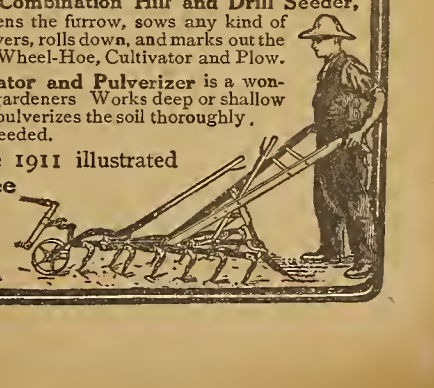

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Garden and Orchard

Transplanting Seed-Onions

One great objection to growing onions from seed in the home garden is the amount of labor necessary in hand weeding and thinning. I have grown onions from seed in the spring in preference to sets for years, and by my plan there is little more labor than with the sets. Onion-seed should be sown as early in the spring as possible; indeed, a severe freeze will not injure it. I select a sheltered spot for the plant-bed, and have found nothing better than where brush has been burned, since this kills all weed-seeds. If there is much ashes mix well with the soil and sow in drills six inches apart. Any sheltered place will do, and the bed may be covered with an old carpet till the seeds germinate. A week or two can be gained by soaking the seeds overnight in warm water.

When the plants are the size of small quills they may be transplanted to the ground where the onions are to grow. This should be rich and should be worked over several times in order to kill all weeds, the last working being just before the plants are set. Water the bed well and take up the young plants, cut off an inch of the roots with a sharp knife or shears and reduce the top to half. Set them in rows a foot or fifteen inches apart and two or three inches apart in the row. If very dry, use a little water and press the dirt well about the roots. The advantages are that you will have earlier onions than if sowed in the drill where they are to grow, there will be practically no hand weeding and every seed sown will be utilized instead of sowing a great amount to insure a stand and then thinning out two thirds of them as in the old method. H. F. GRINSTEAD.

Seed-Catalogue Time

Seeds—is it best to buy them or grow them? That depends.

If you have a pure variety, especially a field crop, that is acclimated, no seed-house can sell you better seed than you can select yourself. Of course, I refer to those who use care in their selection and not the off-to-the-crib-before-planting style. For example, I have laid away some selected milo heads that can't be bought on the open market at any price—seedsmen can't take the pains I did and sell for a price you'd pay.

However, there are crops it don't pay to fool with saving seeds. The small gardener had better buy and have it off his mind. In general, I believe garden-seeds are better bought than saved.

The trouble with the farm seed-saving proposition is we are liable to cross varieties. Seldom does the average gardener have just one variety of anything. More likely three or four bloom side by side. I don't know about garden crops mixing, but corn—I've seen as high as five mixtures on a field of "pure-bred," pollen from other varieties having been carried for miles. C. BOLLES.

Gumption in the Garden

When the time for planting early peas was at hand, and the man we had engaged to plow our suburban garden had not put in an appearance, I said to "Wilson" that the time had surely come for the exercise of both muscle and gumption.

I took the five-foot handle out of the old plantation hoe and drove on an iron ring (A) to within one and one fourth inches of the butt end and made a five-eighths-inch mortise (B) one and one half inches from the butt end. I then knocked out the fork from my old spader and put it into the mortised place prepared for it, in the same position as the tines are of the potato fork (or "hook") in common use—at right angles to the handle.

With this "Wilson" quickly dug over enough land for the planting of the peas. He said that the work was done both quicker and easier than if done with the spading-fork in common use. Later, I found that even a well-sodded piece of land could be quite neatly and easily turned over by using this digger. As a potato-digger it is also a

success, as the long tines go under the potatoes to such a depth that there is but little danger of damaging them.

It is the best tool of the kind that I know of, and is more worthy of a patent than many other garden tools on the market. While it is no "idol" for the indolent, it is a sort of one in my tool-house and I only fear for its temporal welfare, when someone else than "Wilson" or myself uses it, for fear they will drive the tines down deep under some radical, stubborn root, and with a strong, careless "uplift" wreck my favorite garden tool and make my tool-house a place of mourning, because of the "passing" of a most indispensable tool. WM. M. KING.

Success With Late Cabbage

Most of the farmers that I know think the cabbage crop is too much bother to be of any account alongside their other work. But if more people knew how easily and profitably cabbage can be raised they would probably look at the proposition another way.

Three things are essential for the successful culture of late cabbage: Good seed, good soil and good cultivation. The three work together and compel success, and a lack of any one of the three means a failure.

Any reliable seedsman can supply good seed, and it is better to pay four to five dollars a pound for good seed than one dollar and fifty cents to two dollars for an inferior grade.

Any really rich soil can be made to raise a good crop of late cabbage, and it is the cultivation which concerns us most.

We follow the system of sowing the seed in a special seed-bed and transplanting into the field, rather than sowing in the field to start with.

We plow down in early spring a good coat of manure and harrow and roll the ground down and leave it. After the weeds start it is again harrowed and left rolled down solid to conserve the moisture.

The plant-bed is treated in the same way and top-dressed with a coating of hen-manure, which is harrowed into the soil. The seed is sowed in an ordinary grain-drill, through the fertilizer part, mixed with fertilizer, ashes or even fine dirt. Every other tooth of drill is allowed to sow. The bed is then rolled down. Keep bed free from weeds and plants will grow rapidly. We usually sow the seed here in Genesee County, New York, from May 10th to 15th.

About June 1st, after the bean crop is out of the way, we put all spare time on the ground where plants are to be set. Harrow and roll thoroughly and mark in rows twenty-eight inches each way. This allows the cultivator to be run both ways and lessens the expense of hoeing. After the ground is marked and seed-bed ready let men go along with light iron bars and punch holes for the plants. We find light buggy axles good for this. After these men let others follow and drop plants, one to each hole. Boys can do this. Still others follow and press roots of plants firmly into the holes.

This done, you are well on the way to a good cabbage crop. Cultivate often, hoe once or twice and keep insects off.

The method of setting plants described above will, I know, be criticized by some, but we have used a planter, one of the best at that, and find that the extra time consumed by the hand setting is more than made up in the cultivation both ways, which the planter-set fields do not allow.

ORRIN SHEPARD.

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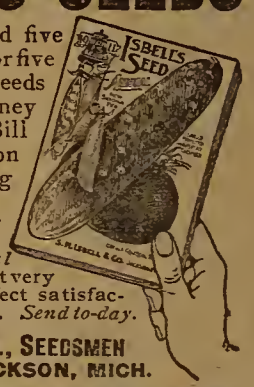

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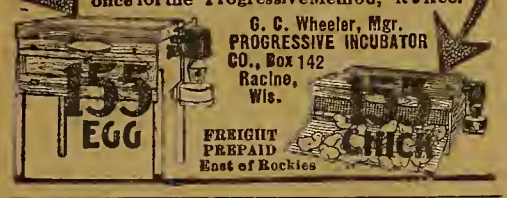

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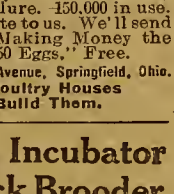

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Poultry-Raising

Step by Step to Success

PROBABLY eight out of every ten people who start into the business of producing poultry and eggs for market do so with the expectation of becoming rich, or next thing to it, in two or three years.

I worked at the business nineteen years before I made much of a showing, and was on the point of throwing the thing overboard a dozen times, but natural obstinacy held me down. If I had known what I now do about poultry and had the facilities for shipping we now have in all parts of the country, I would have made a wad sufficiently large to enable me to quit and rest long before I did.

If something was to happen to me so that I should find myself bankrupt to-morrow, I would at once procure a small stock of good common fowls and in five years not only be solvent financially, but also comfortable. But I have the experience—the knowledge to take up the business right and go on. An inexperienced man could not do this, simply because he does not understand hens. He must first learn hens and chickens.

A sensible beginner came to me early last spring. He had acquired no inflated

Young Poultry-Fanciers

ideas and he said he knew very little about the business, but he was determined to learn. He did start in with forty hens, and he has just written me that he has learned a whole lot and can now see his way clear to go ahead with two hundred hens and make some money. I predict that he will be a success.

To make a beginning in the poultry business one needs but few appliances, simple but efficient. One must rely more upon his hens than on machinery. If one has the cash to spare, he may buy an incubator, because he can find use for it, but he should remember that the incubator of itself will not bring him success, the hens will do that. Incubators are much like automobiles; if one knows how to manage them, he will get service out of them.

After I learned how to induce a hen to do her best and how to prevent the discouraging loss of chicks, it seemed easy to make money, because there surely is a good profit in the poultry business—when loss of chicks is eliminated and one has learned how to avoid feeding his profits away. Those two points sound simple enough, but they take a lot of learning.

In starting into the business be sure to start with healthy stock, raised on the farm or open range, and keep it healthy by raising all your breeding stock under like conditions. Chicks intended for market may be pushed and pampered to the limit if they are from strong, rugged stock, and pushing is the way to get the largest profit from them. But chicks that are from the eggs of cooped and pampered stock will not stand pushing. Long experience and experiment has taught me that. The first thing one finds is that tuberculosis and diphtheritic diseases are developing and he has the dreaded "white diarrhea," roup or other destructive ailments among his birds, and all prospective profits vanish in a few days. Chicks from healthy stock do not develop disease unless they are kept under very unsanitary conditions.

The Eggs for Hatching

One should keep his breeding stock separate from his market stock and give it a chance to develop the best that is in it. On the ordinary farm or city lot not many hens are required for breeders. One should not allow any of them to sit, but keep them laying eggs for hatching all through the breeding season. And only the breeding hens require males with them. No other males should be kept. In the city I would prefer to buy eggs for hatching to keeping a cock to arouse the ire of neighbors with his crowing just at the time they desire to finish a good nap. Eggs for hatching can be procured from farmers who have good stock, often for less than it would cost to produce them.

When chicks are hatched it is folly to lose them. They must be kept in control. That is, they must be yarded, so that they will not be destroyed by enemies, storms or disease. If they are fed right, and their yards and coops are kept clean and sanitary, disease will not destroy them, and the owner must make certain that rats, cats and other like pests do not get them.

After chicks get fairly started, say two weeks old, they should be pushed right along with an abundance of food. Not a minute should they be allowed to be hungry. To prevent any possibility of their running short, I keep food where they can obtain it at any time. Water and grit must never be overlooked.

Save Steps and Double Efficiency

By feeding the chicks large quantities at a time in good feeders I found it easy to feed as high as two and three thousand chicks in a very short time. Watering was done the same way. A tank holding one to three gallons will supply a big lot of chicks and preclude the possibility of their running short, these tanks being filled every second or third day. My constant aim was to cut out labor and save time by having buildings, yards and flocks convenient to get at.

Whenever anything was needed I invented it. Thus when sparrows discovered my chick-feeders and came by hundreds to fatten at my expense I covered my feeders with "sparrow-excluders" made of two-inch strips of board and one-inch-mesh netting. They were two feet wide, three feet long and eighteen inches high. The front was boarded down to six inches of the ground and strips of cloth that hung down to the ground were tacked above the open space. The chicks ran in and out at their pleasure, but the sparrows feared it was a trap and kept out.

One must be alert, and if anything goes wrong, should be quick to discover the cause. He cannot be too careful about introducing disease into his flocks. When buying new stock, if you think you have to do this, get your eggs or stock from someone who raises his stock in the open.

Sell While the Growing is Good

The most successful hog-raiser I know said to me: "People wonder how I made so much money with hogs. You know how rapidly a pig can be made to grow by good feed and care. And you know that rapid growth in a pig from good stock goes on without check up to two hundred or two hundred and thirty pounds. Then it slows up gradually, yet it continues to devour lots of food. I suppose it is the same with a chicken. Well, the fellow that keeps on feeding plays a losing game. I sell."

That is just what I do. Chicks can be made to grow rapidly to about three pounds, then they begin to develop a finishing coat of feathers, combs and other useless material. If they are sold just before they do this, all the food that goes into this useless material is saved. The risk of loss is avoided, the yards are cleared for finishing up the later hatches and you have the cash in your pocket.

How many hens should one keep to make the business pay? That depends on the space he has, but one should keep all he can safely and profitably handle. I made my hens pay a profit right at or above four dollars a year each. This is not a difficult matter, as many poor managers think. One must cut down the labor, cut out all losses, buy feed stuff at first hand and sell at the proper time. Keep expenses down. Make every hen do her best, and if she has no best, sell her.

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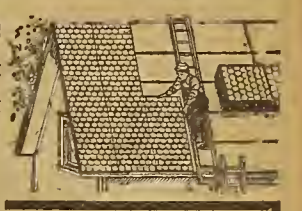
Lasts a Lifetime



They are stamped in best Bessemer Steel and come in sheets 5 to 12 feet long and 24 inches wide, either painted or galvanized. Will not rust or corrode. The nails are covered by our patent interlocking feature which prevents leaking, etc.

Reo Steel Shingles are easily put on any roof. Hammer and nails only tools needed.

$10,000 Guarantee Bond

Perfect protection against fire, and are absolutely guaranteed by us in a $10,000 bond as proof against lightning.

Will outwear wood or composition roofs and cannot be distinguished from best cut wood or slate shingles.

Get Manufacturer's Bargain Prices

We are largest manufacturers of all kinds of iron and steel roofing and can quote you lowest prices.

Send for Our Free Catalog No. 358

It contains valuable information you should have before you put on that roof. Send dimensions of your building and we will quote cost of a Reo Steel Shingle roof delivered to your railroad station.

We want one representative in every community to demonstrate and take orders for Edwards Interlocking Reo Steel Shingles. Write us today—now! (40)

THE EDWARDS MANUFACTURING CO.
308-358 Lock Street, CINCINNATI, OHIO

Light YOUR HOME YOUR STABLES YOUR BARNS YOUR DAIRY YOUR STORE YOUR CHURCH YOUR VILLAGE

With Salom Batteries

The perfection of the storage battery by Pedro G. Salom has brought electricity within reach of all. No more dim candle light, no more bad smelling and dangerous kerosene lights, no more soot and dirt and no more danger of fire and explosion. With SALOM STORAGE BATTERIES you can have all the light you want, and when and where you want it. You can use electricity for ironing, churning, cooking, heating, the separator, etc., etc. With electricity on the farm there will be no awkward questions from the insurance agents, and besides, the insurance rates are largely reduced.

Lights available Day and Night without Starting your Engine and are Cheaper to Burn than Lamps.

Write us tonight for full particulars, cost of this outfit, and in replying tell us whether or not you have a gasolene engine or any other power.

NIAGARA LEAD & BATTERY CO.
Dept. E. Niagara Falls, N. Y.

Freight Paid East of the Rockies

140 EGG INCUBATOR and 140 CHICK BROODER Both For $10

The incubator is California Redwood, covered with asbestos and galvanized iron; has triple walls, copper tank; nursery; egg tester, thermometer, ready to use. 30 Days' Trial—money back if not O. K. Write for Free Catalog today.

Ironclad Incubator Co., Dept. 49 Racine, Wis.

100 Eggs $7.15

A Genuine Reliable Incubator at less than price asked for those cheap pasteboard, iron walled machines. Perfect, reliable, hot air, heating and ventilating system at Lowest Cost of all. We Pay Freight east of Denver. Send for our Free Book and special offer or better yet Send Order Today.

Reliable Incubator & Brooder Co., Box 941 Quincy, Ill.

SHOEMAKER'S BOOK on POULTRY

and Almanac for 1911 has 224 pages with many colored plates of fowls true to life. It tells all about chickens, their prices, their care, diseases and remedies. All about Incubators, their prices and their operation. All about poultry houses and how to build them. It's an encyclopedia of chickendom. You need it. Only 15c.

C. C. SHOEMAKER, Box 962. Freeport, Ill.

Poultry the Best Paying Branch of Farming

The 1911 catalog by Robert H. Essex, poultry and incubator expert, will start you right. Improved incubators and brooders. Read "Why Some Succeed Where others Fail."

ROBERT ESSEX INCUBATOR CO.
63 HENRY ST., BUFFALO, N. Y.

Best Birds, Best Eggs, Lowest Prices All leading varieties pure-bred Chickens, Ducks, Geese and Turkeys. Largest Poultry Farm in the world. Fowls, Eggs and Incubators at lowest prices. Send for big book, "Poultry for Profit." Tells how to raise poultry and run Incubators successfully. Send 10c for postage.

J. W. MILLER CO., Box 203, Freeport, Ill.

MONEY IN POULTRY AND SQUABS

FOY'S BIG BOOK tells how to start small and grow big. Describes World's Largest Pure-bred Poultry Farm; gives great mass of poultry information. Lowest prices on fowls, eggs, incubators and brooders. Mailed 4c. in stamps.

F. FOY - BOX 10 - DES MOINES, IOWA.

GET OUR LOW PRICE on first-class INCUBATORS & BROODERS.

2-HATCH FREE OFFER on our NEW NO MOISTURE GEM. Greatest Incubator Invention Ever Made. No Guess Work. No Worry. Thousands in use. Everybody succeeds. At dealers or send for free book. Freight Paid.

GEM INCUBATOR CO., Box 35 Trotwood, O.

Greider's Fine Catalogue of pure bred poultry, for 1911, over 200 pages, 57 colored pictures of fowls, calendar for each month, illustrations, descriptions, photos, incubators, brooders, and all details concerning the business, where and how to buy fine poultry, eggs for hatching, supplies, etc., at lowest cost. Send 15c.

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A Real Surety Bond

THE owner of a building covered with Congo has the satisfaction of knowing that his roof is *guaranteed for 10 years*.

In each roll of Congo 2 ply and 3 ply is a *genuine legally binding Surety Bond* issued by the National Surety Company of New York.

This year we will guarantee thousands of roofs *to last till 1921*.

Of course we are not going to lose—we are offering a sure thing.

CONGO ROOFING

GUARANTEED UNTIL 1921

We know Congo will last *more* than 10 years.

One thing the guarantee forces upon us; it makes us extremely careful in manufacturing.

We make doubly sure that every roll is perfect.

We use the best material that money can buy.

We provide free of charge, *galvanized* iron caps which are rust proof and will last as long as the roofing.

Send for free copy of our Guarantee Bond, and a sample of Congo Roofing.

Congoleum We should like to send every reader of this paper a sample of Congoleum, the new floor covering and wainscoting. A perfect imitation of light and golden oak. Unusually durable. The price is very low. Write for samples and further details.

UNITED ROOFING & MANUFACTURING COMPANY

PHILADELPHIA CHICAGO KANSAS CITY SAN FRANCISCO

Go Into Poultry and Make Money

Chicken and egg farming is a business of wonderful possibilities. Many of the best and strongest men in the country are engaging in it because of the opportunity it affords to make money. Does money making interest you? Let us see.

I Want 10,000 or More Men and Women to Write Me.

I want to send you my book and talk to you about Poultry *as a business.* I will undertake to show you that it is the livest calling that keen, active business men, women, boys and girls can engage in. You have heard about *"The Queen Incubator Way."* I am going to demonstrate to you that the Queen Incubator way makes poultry pay—makes it a *real* business. And I'll not stop at that, my friends. When I have shown you the way I will make you the most remarkable offer ever you had of starting up in the Queen Incubator way on the make good plan.

It will cost you only a penny to send a postal for my book, my story and my plan. Will you spend the penny and send the postal? Address

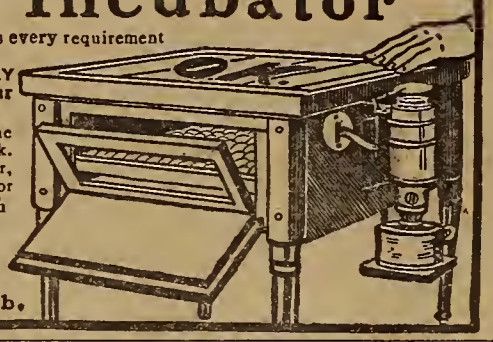
WICKSTRUM, Queen Incubator Man, Box 57, Lincoln, Nebraska

THE SURE HATCH IS MADE RIGHT

Uncle Sam never says how a thing ought to be made until he knows. Farmer's Bulletin No. 236 of the U. S. Dept. of Agriculture tells the right way to make an incubator and what features a good incubator must possess. The Sure Hatch contains every one of those features and is made exactly as Uncle Sam says an incubator ought to be made. The

Sure Hatch Incubator

is the only one on the market that unqualifiedly meets every requirement of the government. It's the one perfect incubator.



We will send you a Sure Hatch for a 60 DAY FREE TRIAL, pay the freight, and refund your money if you are not satisfied.

Send for Farmer's Bulletin No. 236, sent free by the Government. Send also for the Free Sure Hatch Book. Read the Government requirements of a good incubator, then read the description of the Sure Hatch Incubator and you will see why we guarantee the Sure Hatch to hatch every fertile egg.

Write for catalog. Early chicks pay best.

Sure Hatch Incubator Co.,
Box 66 Fremont, Neb.

RAYO INCUBATOR

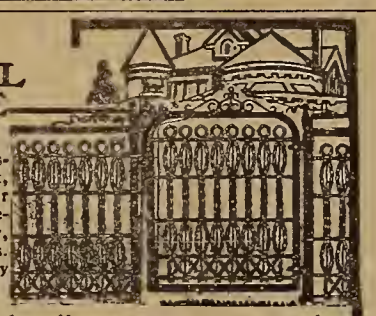
Many Superior Points

Requires 1 filling of tank—1 gallon of of oil for entire hatch—Central heat gives equal radiation—Eggs always in sight—Turn eggs without removing **nest shaped tray.** Numberless testimonials prove Rayo is the best incubator on the market. Tells of 99% hatches. **Saves ⅔ Cost of Hatch—Requires ½ the Work** to operate. Built on simple, common sense principles. We pay the freight. 70 day trial. Our ironclad guarantee backs our claims. Write today for our **free** catalogue. A postal will bring it.

Write TODAY for our FREE CATALOGUE

RAYO INCUBATOR CO., Fife St., St. Blair, Nebr.

CYCLONE ORNAMENTAL LAWN FENCE



will give your place the distinctive air of a well-kept, prosperous, happy home. Our many original exclusive designs are unrivaled for beauty, dignity and attractiveness. You'll find one that exactly suits you.

Cyclone Ornamental Fence is made of strong wires, heavily galvanized, rust proof. Reverse twist is made on the stay, not between, which absolutely prevents slackening. **Cyclone Farm Gates** are made of high-grade carbon steel and are strong and durable. No holes in the frame to weaken it. Write for FREE catalog,

CYCLONE FENCE COMPANY, Dept. 109, Waukegan, Ill.

125 Egg Incubator and Brooder Both For $10

Freight Paid

Why pay more than our prices? If ordered together we send both machines for $10.00, and pay all the freight charges. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery underneath the egg-tray. Both Incubator and Brooder shipped complete, with thermometers, lamps, egg-testers—all ready to use when you receive them. All machines guaranteed. Incubators are finished in natural colors showing the high grade lumber used—no paint to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Send for the free catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO., Box 88, Racine, Wis.

Wisconsin Incubators are made of California Redwood. Lamps are galvanized iron. O. K. Burners. Taylor Thermometers.

This Illustration *shows the double walls with air space between*

Wisconsin Incubator Co., Racine, Wis. Vickery, Ohio

Gentlemen:—I am well pleased with your incubator. After I had taken off one hatch, I could have sold it to several of my neighbors, but I did not want to sell it. From the first hatch I got 97 chicks from 100 eggs and if the eggs do not hatch it is not the fault of the incubator because it is perfect.

MARY M. STULL.

Wisconsin Incubator Co., Racine, Wis. Grasse Lake, Mich.

Dear Sirs:—I do not think there is a better machine on earth than your incubator. From the first three hatches I got 116 chicks from 116 eggs, 105 chicks from 105 eggs and 109 chicks from 109 eggs. No incubator on earth can beat that. I will stand by this statement as I can prove it.

A. JESSUP, R. No. 3.

Poultry-Raising

Spring and Summer Poultry Markets

WHETHER poultry is raised for meat or eggs, the requirements of the spring market ought to be studied by both classes of poultrymen, as the egg-man's surplus of male birds must go by way of the butcher.

Broilers and capons are the aristocrats of the spring market, commanding best prices in their respective seasons. Of course, their production is a specialized business.

The market for capons opens early in the year and continues until the middle of April. All stock should be shipped in before the price begins to wane, as it is unprofitable to keep them over. Capons should weigh eight or nine pounds each and are dressed in a unique manner, to distinguish them from other poultry—the feathers are left on the rump, the lower part of the wings, the head and neck, and at the leg-joints. The birds should be dry-picked for city markets.

The market for broilers opens about April 15th and continues into the summer, the city market slacking off about July 1st, though the demand at summer resorts remains good to the end of the boarding season. Poultrymen here in New Jersey get thirty to thirty-five cents per pound for their spring broilers, which should weigh from two and one half to four pounds per pair, spring broilers usually running a little lighter and summer broilers heavier.

Attractive Appearance Counts

The demands of different markets vary, however. Some retail markets catering to a very fancy trade want birds weighing not heavier than a pound apiece, while others want the birds scalded instead of dry-picked. The city markets, however, except in the case of poultry for Jewish feast days, generally require broilers dressed and dry-picked, head and feet on and unopened. After being well cooled they are packed in small boxes with paper around the edges and expressed to their destination to reach there on Thursday of each week.

When shipped direct to city customers we generally draw the birds and remove the head and feet. The manner of packing is influenced by the demands of individual buyers.

Light-feathered birds only should be grown for broilers, as they do not show disfiguring feather marks when dressed. A good broiler has a firm full body—the opposite of scrawny. Lanky birds must be eschewed as broilers and left until large enough for roasters. After a bird has passed the age when its flesh yields readily to the heat of the gridiron it is no longer a broiler.

The Jewish festival days, when live poultry are in brisk demand, are coincident with Easter week, Pekin ducks and young chickens bringing top prices then. Shipment alive is imperative. M. ROBERTS CONOVER.

Turkey Hints

THE prevailing high prices of turkeys offer strong inducements to raise the most difficult of all fowls. Here are a few hints conducive to success, from my own experience.

Provide nests early in the season so that the turkey-hens will not wander away. An old barrel with a board in front will answer the purpose. If the setting has to be kept for any length of time, it is well to turn the eggs daily.

When the eggs hatch out put hen and little ones in a small yard and feed the mother liberally. This induces the home instinct and prevents further wandering. The second day grease the heads and throats of the youngsters with a little melted lard, and later, under and on top of the wings, as a precaution against lice. A good feed can be made of equal parts of sour milk, cheese and corn-meal, seasoned with black pepper. Later on, cracked corn and wheat can be fed. Onion-tops, finely cut and mixed into the feed, are an aid to good health.

Close watching for lice is essential, especially if the poults are raised with chicken-hens. A day or two of neglect in hot weather may prove fatal.

My experience has been that White Holland turkeys are more domestic than the Bronze, as well as more prolific. These stately white birds not only "delight the eye," but the pocket as well.

MARY E. BLAIR.

Have you any egg-eaters in your flock? Sure sign you have not been giving them a variety of feed. Give all the raw fruit and vegetables they will eat in addition to liberal rations of grain.

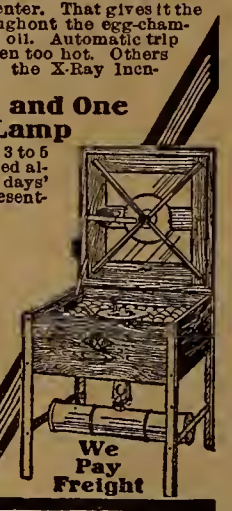
While planning for profitable field-work, don't neglect to put the poultry in prime shape for summer laying. Chickens are growing to be more profitable than the field-crops, considering the amount invested in them and the labor involved in their keep.

Made on the Only Correct Principle

Lamp is underneath, in the center. That gives it the most even temperature throughout the egg-chamber. Holds 4 to 8 quarts of oil. Automatic trip cuts down flame at burner when too hot. Others let heat escape. That's why the X-Ray Incubator needs only

One Gallon of Oil and One Filling of the Lamp

to a hatch, while others need 3 to 5 gallons of oil and must be filled almost every day. Sold on 90 days' trial, guaranteed to be as represented and we pay the freight.



THE X-RAY

Incubator

means better hatches at less expense and no bother. Made of California Redwood, enameled, steel covered, rosewood finish. Ask for free book No. 62.

X-RAY INCUBATOR CO.
Wayne, Neb.

We Pay Freight

Johnson Gets Only 7 Per Cent Profit on 100,000

Old Trustys

Johnson says tell you to sure send your name this time for his 1911 price—less than $10 for Old Trusty, freight prepaid (East of Rockies)—based on 100,000 capacity and only 7% profit.

My 1911 Book Tells You

Take 30, 60 or 90 days' trial. Remember Johnson's 10-year guarantee on Old Trusty. Covered with asbestos and again covered with handsome sheet metal. 80% or better hatches guaranteed. Simple and sure.

Send Name

My big 1911 book has hundreds of photos. Every page a poultry sermon. Write postal to

M. M. JOHNSON
Clay Center, Nebraska

Under $10 Now Johnson Pays the Freight East of Rockies

SAM THOMPSON WILL SHIP
His Fairfield Incubator on 42 Days' Trial—Guarantee It To Hatch 90% or Better.

I want to prove to you my incubator is the best you can buy anywhere at any price. The World's Best Hatcher

Send for my Incubator, 50, 100 or 225 egg capacity. I'll send it freight prepaid. Fill it with eggs. When they're hatched fill it again. If my Fairfield doesn't prove the best, most satisfactory hatcher you ever saw, send it right back at my expense. Will you try the Fairfield at my risk?

Write for Free Catalog and 2-Hatch Trial Offer. My big book tells about my trial plan.

Sam Thompson, President
Nebraska Incubator Co.
604 Main St., **Fairfield,** Neb.

TWO HATCH TRIAL OFFER

Get our Price and Free Book

LIFE PRODUCERS
SUCCESSFUL INCUBATORS
LIFE PRESERVERS
SUCCESSFUL BROODERS

The only machines that rival the mother hen. Sold on a **Direct-to-You Factory Price.** Get our **Big FREE** Incubator Book and save 40%. Send postal now. Booklet, "Proper Care and Feeding of small Chicks, Ducks and Turkeys" sent for 10c.

DES MOINES INCUBATOR CO., 61 Second St., Des Moines, Ia.

$10 BUYS BOTH
125 EGG INCUBATOR, $8.00
125 CHICK BROODER, $4.00

Get big hatches with our metal covered, double case, copper tank **NATIONAL INCUBATOR**

Freight Paid

Automatic regulator, vermin proof metal case, roomy nursery. Freight paid east of Rockies. Write for new 1911 catalog, free, and bargain offer.

National Incubator Co., 158 18th St., Racine, Wis.

WE SELL GUNS AND TRAPS AT LOW PRICES | **WE BUY** FURS AND HIDES PAY HIGH PRICES

Send for catalog No. 27. **NORTHWESTERN HIDE AND FUR COMPANY, Minneapolis, Minn.**

50 Best Paying Varieties Pure-Bred Chickens, Ducks, Geese, Turkeys, Eggs, Dogs and Incubators. **All at Low Prices.** Send 4c. for my Book which gives reliable information worth many dollars to you

W. A. WEBER, Box 936, Mankato, Minn.

FIFTY VARIETIES pure bred chickens, ducks, geese, and turkeys. Northern raised, hardy and fine in plumage. Prize-winners at the world's largest shows. Lowest prices on stock and eggs. Incubators, Brooders, and Poultry Supplies. Large Illustrated Catalogue mailed for 4 cents.

C. M. ATWOOD, Box 21, Dundee, Minn.

WE PAY $80 A MONTH SALARY

and furnish rig and all expenses to introduce poultry and stock powders; new plan; steady work. Address **BIGLER COMPANY, X403, SPRINGFIELD, ILLINOIS.**

Fowls and Eggs

BIGGEST MONEY MAKERS

100 pens of pure bred, finest strain prize-winning stock. The kind you want—at **right prices.** Complete line of Poultry Supplies. Write us. Booklet "How to Raise 45 Chicks out of 50 Hatched"—10c. **Catalog FREE.**

Royal Poultry Farm, Dept. 180, Des Moines, Ia.

FENCE *Strongest Made*

Made of **High Carbon Double Strength** Coiled Wire. **Heavily Galvanized** to prevent rust. Have **no agents.** Sell at **factory prices on 30 days' free trial.** We pay **all freight.** 37 heights of farm and poultry fence. **Catalog Free.**

COILED SPRING FENCE CO.
Box 30 Winchester, Indiana.

13¼ Cents a Rod

For 18-in. 14 3-4c for 22-in. Hog Fence; 15c for 26-inch; 18 3-4c for 32-inch; 25c for a 47-inch Farm Fence. 48-inch Poultry fence 28 1-2c. **Sold on 30 days trial.** 80 rod spool Ideal Barb Wire $1.45 Catalogue free.

KITSELMAN BROS.,
Box 272 MUNCIE, IND.

Poultry-Raising

A Show Worth Copying

HERE are some new, up-to-the-minute ideas in the management of poultry shows. Mr. C. M. Gallup of Skowhegan, Maine, sends them expressed in the following letter and illuminated with the accompanying picture. We will not need to point out to our readers the utility of demonstrations such as those here described in opening the eyes of poultrymen and raising their standards throughout the community. These Skowhegan poultrymen have some ideas worth copying.

A New Idea in Poultry Shows—Dressed Carcass Competition

Ten fat chicks, duly starved and then slaughtered to determine the dressing per cent., made the first annual exhibition of the Somerset Poultry Producers' Association, late last December, unique in the annals of the poultry industry. Nothing could have brought out the factors that go to make "market quality" more sharply, and the influence for good upon the poultry industry of this locality bids fair to be pronounced. Incidentally the show was a success from start to finish, with good crowds and keen interest throughout.

The association was organized at Skowhegan, Maine, in October, with the intent of developing a system of coöperative marketing. The limited membership includes several chaps of the variety known as "live wires," and they have started right in at the foundation, and laid plans for putting the local industry where uniformity and high quality will accompany a greatly increased production. Chief among them is Secretary Arthur R. Jewett, a local marketman, who served a six-year apprenticeship in the great Faneuil Hall Market of Boston. What he doesn't know about market poultry and eggs does not call for very elaborate consideration.

Prizes for Market Quality

The show was a three-day affair, and the first evening was devoted to the exhibit of eggs. The number of entries was not large, but the quality seemed very high throughout. One particular dozen of rich brown eggs, that weighed thirty-one ounces, looked good enough to win first at any show or fair in the state, yet they failed to even get a place. Their excessive length would involve so much breakage that they could not be shipped profitably, and when "candled," they appeared to be several weeks old. Every egg in the exhibit had to run the gauntlet of the electric light, and in addition to the regular entries, Mr. Jewett showed to the interested spectators samples of good, bad and indifferent eggs that had come from cold storage, as well as some that had been preserved in water-glass and lime.

Judging exhibition stock took up most of the second day, and Professor Brown, of Maine Agricultural College, spoke on egg production. He advised the poultrymen to drop the idea of trying to breed for high egg production, and work for vigor and market qualities instead. He said that all the evidence to date indicated that if egg production was an inherited trait, it was in too small a degree to be worth much attention. Then he went on to describe the characters of utility poultry that are really worth while on the business farm.

Killing of the fat stock began at nine o'clock of the third day. It was delayed until this time so that every bird could be first fed and then starved alike. The killing was done by a local expert, and the dry-picking attracted a lot of interest and attention. Of course, the birds were weighed alive, and then again after they had been picked and bled. Next came the cleaning and trussing "London style," as illustrated below.

This part of the work was done by the writer, and for hours men, women and children stood about the table watching. The process consists, first, in singeing over an alcohol flame, then the skin of the neck is split up the back and cut around near the head. This gives access to the crop, windpipe and lungs, which are all carefully worked loose from the carcass. The neck is then cut off where it joins the body, and after that a cut into the abdomen and around the vent permits all the vitals and entrails to be loosened and removed in a mass. The giblets were then cleaned and, with the neck, replaced within the trussed carcass. Final weight in this shape then gave the data for calculating the dressing per cent. These data are given in the diagram in the first column, which indicates sharply the increased value of matured and finished stock.

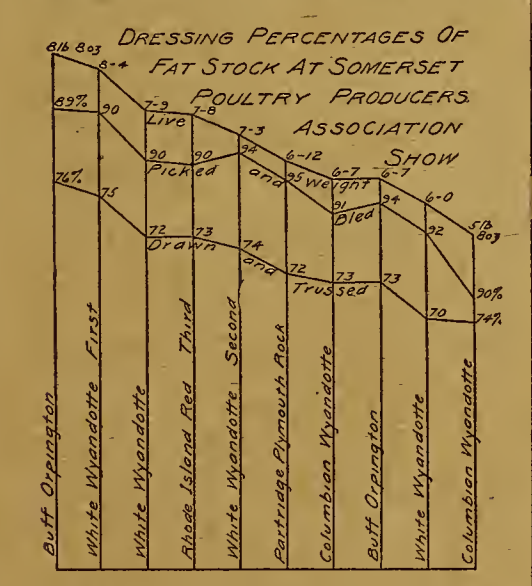
Awards in this class were based on quality, appearance and size. The carcass that won first was far and away above all the others, as the members generally were short on this kind of stock.

For the 1911 show, a special class has already been announced. Each exhibitor in this must show a cockerel with four pullets, two chicks for slaughtering and a dozen eggs, everything to be of his own production. By this means it is hoped that the defects of sundry breeds and varieties may be so emphasized that the keeping of them hereabouts will practically cease; and in place of excessive variety, we may ultimately secure a high degree of uniformity.

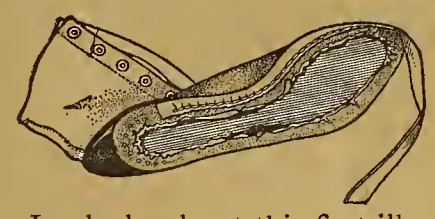
Most of the fat chicks for next year will probably be caponized, and the idea is growing that the birds killed in competition should be disposed of at a grand banquet given a day or so after the close of the show.

Many people hardly look at the directions sent along by the manufacturer of the incubator, and then wonder why in the world they have such unsatisfactory hatches.

After a few days of warm weather we are quite apt to have a spell of cold, with raw winds and maybe snow a number of inches deep. Then is the time to keep your pets in. Just as sure as they get their feet wet they are apt to have colds. Sneezing hens do not lay many eggs.



SHOES SMOOTH INSIDE



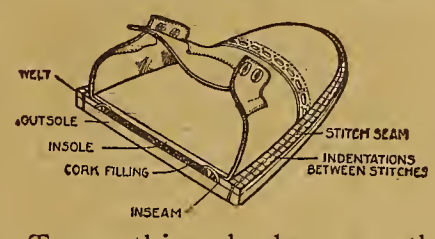
Look closely at this first illustration. It shows a narrow strip of leather, called a welt, which has been partly sewed around the edge of an unfinished shoe.

But these stitches do more than attach this welt.

They stitch the welt and leather upper to the channelled lip of the insole in a strong seam.

Yet not a single thread of this seam penetrates the insole to mar the inner smoothness of the shoe.

The shoe is left **smooth inside.**



To see this unbroken smoothness look now at the second illustration. See how the heavy outer sole is attached to the welt, with the seam completely outside the shoe.

Judge for yourself what this smoothness means to the comfort of your feet.

And remember that shoes made by the Goodyear Welt Method are more durable than hand sewed, yet they cost only one-third as much.

Goodyear Welt Shoes are sold at all leading shoe stores, but to make sure, write us for the list of distinguishing names. Do this before you buy another pair of shoes.

USMC

Your name and address on a post card brings these booklets without cost:

1. Contains an identifying list of over five hundred shoes sold under a special name or trade-mark, made hy the Goodyear Welt process.
2. Describes the Goodyear Welt process in detail and pictures the sixty marvelous machines employed.
3. "The Secret of the Shoe—An Industry Transformed." The true story of a great American achievement.
4. "An Industrial City." Illustrated—descriptive of the great model factory of the United Shoe Machinery Company at Beverly, Massachusetts.

UNITED SHOE MACHINERY CO., BOSTON, MASS.

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Rubber Roofing

Warranted For Twenty-Five Years.

FREIGHT PAID To Any Station East of Rocky Mountains, except Texas, Colorado, New Mexico, N. Dakota, S. Dakota, Wyoming, Montana. Special prices to these states on request.

ONE-PLY .... Weighs 35 lbs., 108 Square Feet, $1.10 per roll.
TWO-PLY .... Weighs 45 lbs., 108 Square Feet, $1.30 per roll.
THREE-PLY .. Weighs 55 lbs., 108 Square Feet, $1.50 per roll.

TERMS CASH: We save you the wholesalers' and retailers' profit. These special prices only hold good for immediate shipment.

Indestructible by Heat, Cold, Sun or Rain.

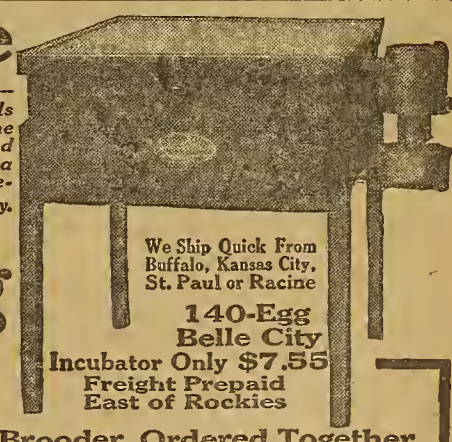
Write for FREE SAMPLES or order direct from this advertisement. Satisfaction guaranteed or money refunded. We refer you to Southern Illinois National Bank.

CENTURY MANUFACTURING COMPANY, Dept. 264, East St. Louis, Ills.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

"Hatching Facts" Free

Just send name and address on a postal—I'll mail you "Hatching Facts"—the most convincing—right-to-the-point Poultry talk ever published. It tells you how to start right at least expense. My Belle City Incubator won the World's Championship last season. "Hatching Facts" tells you about it—and hundreds of other wonderful hatches. Write for the Booklet today—or if in a hurry, order direct from this advertisement. I'll send book, too. Read remarkable offer below: *J. V. ROHAN, President Belle City Incubator Company.*



We Ship Quick From Buffalo, Kansas City, St. Paul or Racine

140-Egg Belle City Incubator Only $7.55 Freight Prepaid East of Rockies

$7.55 Buys the Best 140-Egg Incubator Ever Made

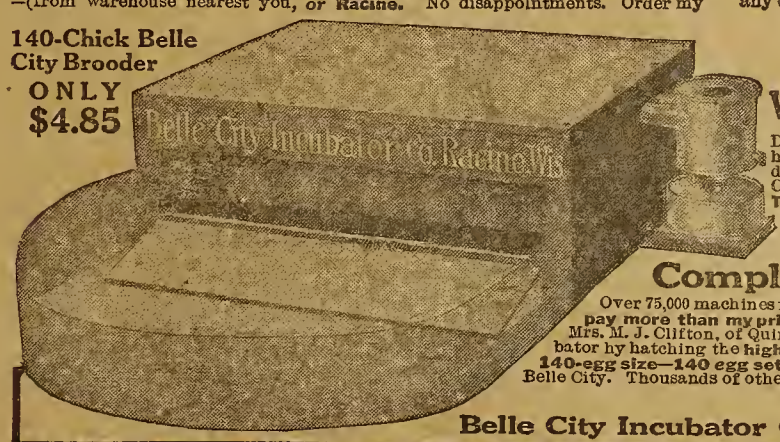
$4.85 Buys the Best Brooder

WHY PAY MORE? Investigate. I tell you the prices right here—and how my machines are made. You can have thirty to ninety days' trial on both incubator and brooder—and I'll send all money back if they do not do all I represent. Be sure to send for my booklet, **"Hatching Facts."** But, if in a **hurry,** you are perfectly safe in ordering right now from this ad. Thousands do this way every year. **I guarantee to ship all orders sent from this ad on day received** —(from warehouse nearest you, **or Racine.** No disappointments. Order my

Both Incubator and Brooder, Ordered Together Cost You Only $11.50—Freight Prepaid

Complete 140-Chick Belle City Hatching Outfit. Send only $11.50 for **both** Incubator and Brooder—freight prepaid (East of Rockies). You'll surely need the brooder, too. So make the savings. **Satisfaction Guaranteed** or money back. No risk, however you order. The editor of this paper knows me to he responsible —I've advertised in this paper for many years and treat my customers liberally. **Belle City Incubators** hatch more chickens—under the same conditions—than any other incubator made, or your money will he refunded. **This I guarantee.**

140-Chick Belle City Brooder ONLY $4.85



Belle City

World's Championship Incubators and Brooders

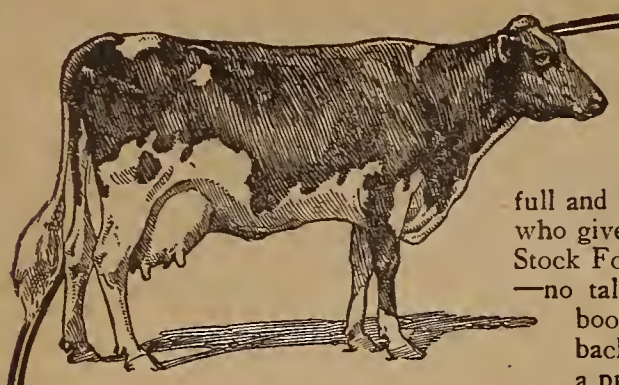
Double walls and dead air spaces all around—12 oz. copper tank—hot water heater—best self regulator—deep, nursery—strong egg tray—high legs—double door—and everything that's any good on an incubator—all in the Belle City. "Tycos" thermometer—egg tester—safety burner and lamp included. **The Belle City Brooder** is the only one having double walls and dead air spaces. I guarantee it to raise more healthy chicks than any other Brooder made. Hot-water top heat—large, roomy, wire runway yard, with platform —metal safety lamp and burner. Full direction and Poultry Guide book.

Complete Hatching Outfit Only $11.50

Over 75,000 machines in use—all doing perfect work. The Belle City should he your choice. **Don't pay more than my price.** No machines, at any price, are better hatchers or brooders. Mrs. M. J. Clifton, of Quinlan, Oklahoma, won the World's Championship with her Belle City Incubator hy hatching the **highest perfect score** in *Successful Farming's* 1910 prize contest of 188 entries—**140-egg size—140 egg set—140 chicks hatched.** This was **100% perfect** on the full capacity of her Belle City. Thousands of other testimonials show you Belle City can do best for you also.

J. V. Rohan, President

Belle City Incubator Company Box 100, Racine, Wisconsin



Pails and Pails of Milk—

full and foaming over, is what the up-to-date dairyman gets who gives his milch cows small daily doses of Dr. Hess Stock Food in their grain ration. No hard times on *his* farm—no talk about "farming don't pay"—just a full pocket-book and *prosperity*. Dr. Hess Stock Food has *reason* back of it. It is formulated on scientific principles, by a practical stockman—Dr. Hess (M. D., D. V. S.) and fills a want long recognized by the American dairyman—a suitable digestive tonic for live stock.

DR HESS STOCK FOOD
A TONIC

acts *directly* on the digestive organs. It gives them "tone" and strength. It causes the *largest possible* percentage of hay and grain to digest and pass into the blood to be secreted as milk. For the same reason (increased digestion) it hastens fatting in the stall-fed steer, the market hog and the spring lamb. "The poorest ration, thoroughly digested, is better than the *best* ration poorly digested." This is "The Dr. Hess Idea" of feeding and its success fully warrants the faith which stockmen everywhere place in it. If you want to have fat, sleek and *profitable* farm stock, use Dr. Hess Stock Food. It relieves minor stock ailments.

100 lbs. $5.00, 25 lb. pail $1.60. Except in Canada and extreme West and South. Smaller quantities at a slight advance. Sold on a written guarantee.

DR. HESS & CLARK
-Ashland, Ohio

Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

Free from the 1st to the 10th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals, 96-page Veterinary Book free. Send 2c stamp and mention this paper.

DR. HESS POULTRY PAN-A-CE-A is the foundation of present day poultry success. It increases appetite and assimilation—hence the egg yield. It hurries the growing chick. It makes market birds fat faster. It shortens the moulting period and cures roup, cholera, gapes, etc. A penny's worth feeds 30 fowls one day. Sold on a written guarantee.

1½ lbs. 25c., mail or express, 40c; 5 lbs. 60c; 12 lbs. $1.25; 25 lb. pail $2.50.

Except in Canada and extreme West and South.
Send 2c for Dr. Hess 48-page Poultry Book, free.

INSTANT LOUSE KILLER KILLS LICE

Twelve Fortune-Telling Post-Cards

ALL FOR THE ASKING

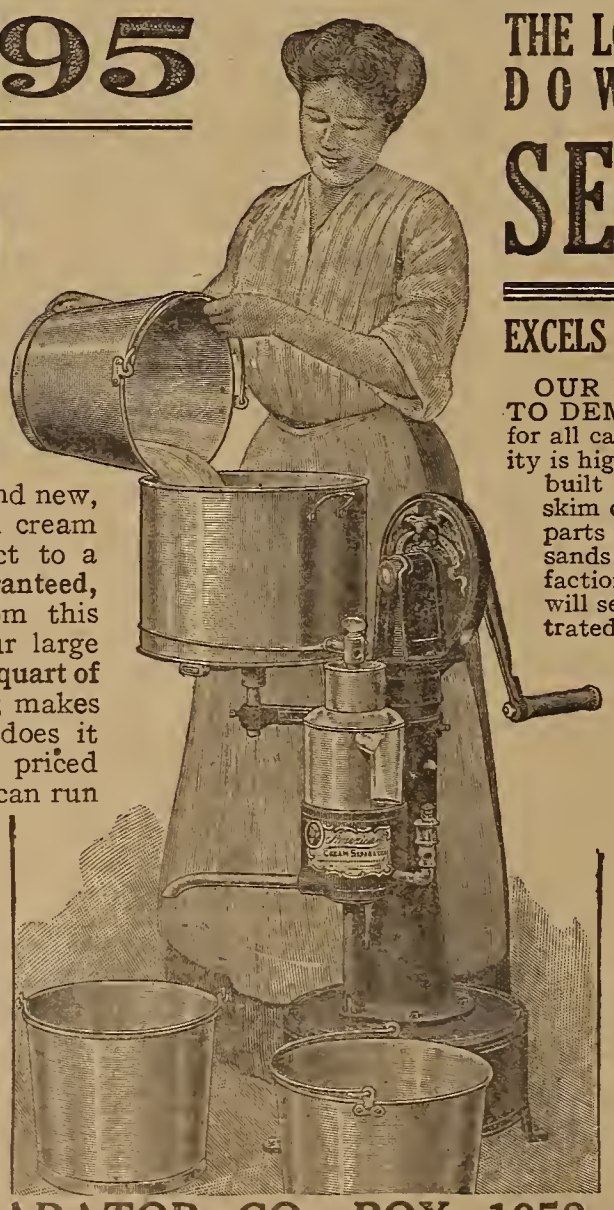
A DIFFERENT card for each month in the year, showing the birthstone, the sign of the zodiac and a brief horoscope—witches, owls, crescent moons, black cats and all of the Fortune-Teller's paraphernalia. With these cards you can have loads of fun telling the fortunes of your friends. Tell them their lucky and unlucky months and days. You can tell them more about their characteristics than they know themselves. Then, too, we will tell you how to obtain

50 Elegant Post-Cards Without Cost

Send us three two-cent stamps right away to pay cost of postage and in return we will send you, post-paid, a complete set of these new Fortune-Telling Cards. Also a large number of sample Season, Birthday and Good Luck Post-Cards for you to show your friends. Send at once before our supply is exhausted to

FARM AND FIRESIDE, DEPT. E, SPRINGFIELD, OHIO

$15.95 AND UPWARD



THIS OFFER IS NO CATCH. It is a solid, fair and square proposition to furnish a brand new, well made and well finished cream separator complete, subject to a **long trial** and **fully guaranteed,** for $15.95. Different from this picture which illustrates our large capacity machines. Skims **1 quart of milk a minute,** hot or cold; makes thick or thin cream and does it just as well as any higher priced machine. Any boy or girl can run it sitting down. The crank is only 5 inches long. Just think of that! The bowl is a sanitary marvel, **easily cleaned,** and embodies all our latest improvements. Gears run in anti-friction bearings and thoroughly protected. Before you decide on a cream separator of any capacity whatever, obtain our $15.95 proposition.

THE LOW DOWN AMERICAN SEPARATOR

EXCELS ANY SEPARATOR IN THE WORLD

OUR LIBERAL TRIAL ENABLES YOU TO DEMONSTRATE THIS. While our prices for all capacities are astonishingly low, the quality is high. Our machines are up to date, well built and handsomely finished; run easier, skim closer, have a simpler bowl with fewer parts than any other cream separator. Thousands of machines in use giving splendid satisfaction. **Write for our 1911 catalog.** We will send it free, postpaid. It is richly illustrated, shows the machines in detail and tells all about the American Separator. Our surprisingly liberal long time trial proposition, generous terms of purchase and the low prices quoted will astonish you. We are the oldest exclusive manufacturers of hand separators in America and the first to sell direct to the user. We cannot afford to sell an article that is not absolutely first class. You save agent's, dealer's and even catalog house's profits by dealing with us and at the same time obtain the finest and highest quality machine on the market Our own (manufacturer's) guarantee protects you on every American Separator. We ship immediately. Western orders filled from Western points. Write us and get our great offer and handsome free catalog. ADDRESS,

AMERICAN SEPARATOR CO., BOX 1058, BAINBRIDGE, N. Y.

Live Stock and Dairy

Live Stock Forecast

FEBRUARY came in with hogs selling for more money than the prices of provisions seem to warrant. The experts seem to think that they are too high and that the country has a lot of hogs waiting to grow heavier. The runs of hogs at the yards average more cars than for a couple of years, and it looks as if they would be more plentiful than in the recent past; but as yet they are still scarce—much scarcer than five years ago. No very great slump in hogs is looked for by the best posted people. Whether that big crop of hogs is really on the way to market, nobody knows for certain.

Eastern cattle are reported as backward, and Chicago the center of the fat-cattle market. The feeders report good gains on account of mild weather. Feed has not been as high as formerly, and profits are fair to the skilful feeder. Plenty of killing stuff is said to be in sight to last to April 1st. All through the corn belt cattle on stalks and roughage have done finely, and the stocker market is supplied with exceptionally good cattle for the time of year. The demand is such that cheap cattle are thought by some to be too high. This has affected the cheap beef cattle to such an extent that such stuff is said to be too high to be economical for butchers.

The sheep market is not very promising. So many Western sheep came into the feeding regions on account of the droughts on the ranges that the markets are congested, and promise to remain so until toward May 1st. Mutton may be one of the commodities to cut down the cost of living this spring. But after the Middle States have unloaded their fat sheep, the source from whence a big supply is to come cannot be pointed out. The Western droughts, in brief, after producing a glut while their output is being sold, are likely to cause scarcer sheep and mutton than ever until the flocks can be recruited.

Horses are still high, in spite of the fact that the city demand has fallen off lately. In the Middle West work horses can be got from $110 to $150, but good mares weighing from 1,300 to 1,500 and of fair breeding—grade drafters—can be sold for $160 to $250. The demand is strong for farm horses—and these mares are wanted for brood mares as well as for work. If the newer portions of the West and Canada receive the immigration which recent years have taught us to expect, the demand for horses will be likely to increase. There is no sign of lower prices before May, at least.

Harness-Oiling Device

A JOB which many team-owners dread is the oiling and dressing up of their harness, and indeed it is somewhat of a disagreeable task, when a poor equipment is at hand for the purpose.

We have noted several equipments for this purpose, but none we like so well as the oiling-pan device described below.

Have a galvanized iron pan made two and one half feet in width, three feet in length and ten inches deep. In each corner of the bottom lay a brick or other material of the same size and fill into the pan sufficient water to cover the bricks. Set it upon an old stove in the shop, or beneath it place a kerosene or gasolene burner.

Into this pan fit another one eight inches in height with flaring sides and slightly smaller than the under pan.

As this pan sets upon the water in the under pan a perfect water bottom is formed, thus preventing oil or harness straps from becoming burned in case of too much heat.

In the upper pan place a quantity of soft water, and with some good harness soap wash up all straps and gears to be oiled, in warm water with plenty of soap.

Let the harness gears dry thoroughly; then place in the upper pan a quantity of good neat's-foot or harness oil, start up the fire and thoroughly immerse all straps, working into the leather all the oil possible.

With this equipment one man can oil up several sets of harness in one day, and the unpleasant task of working cold grease into rough, hard straps is avoided.

After the harness has soaked in the oil thoroughly give the surface a light coating with some good black harness-dressing.

With such an equipment the boys can take in many dollars in a season by oiling up harness from other farms where the owner would much rather hire such work done than do it himself. GEO. W. BROWN.

Look for a good kind horse on the farm of the man who loves every living thing. You won't be disappointed.

A Pennsylvania horseman writes: "Never strike or hurt a balker. I stuff cloth in his ears or hold up his foot and tinker with it for several minutes. This diverts his attention and he will generally start when you get back into the wagon."

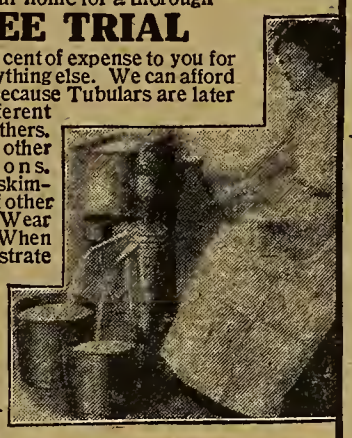
Which Shall It Be?
ONE
SHARPLES
Tubular
Cream Separator

and perfect satisfaction for life—or several "mail order" or other (so called) cheap separators that exasperate you every day and last, on the average, one year apiece?

Remember that one Tubular will outlast ten cheap machines. Then ask yourself if the Tubular is not the cheapest machine to own and use. Our local representative will put a Sharples Dairy Tubular—The World's Best cream separator—right into your home for a thorough

FREE TRIAL

without one cent of expense to you for freight or anything else. We can afford to do that because Tubulars are later than and different from all others. No disks or other contraptions. Twice the skimming force of other separators. Wear a lifetime. When you demonstrate these facts, in your own home, then you'll have a Tubular or nothing.



Guaranteed forever by America's oldest and world's biggest cream separator concern.

Write for 1911 catalogue No. 112, and free trial.

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THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.
Chicago, Ill., San Francisco, Cal., Portland, Ore.
Toronto, Can. Winnipeg, Can.
JOHN DEERE PLOW CO., Gen'l Agents, Dallas, Texas.

Fistula and Poll Evil

Fully ten thonsand horses are cured every year with
Fleming's
Fistula and Poll Evil Cure
and many of them are bad old cases that skilled doctors have abandoned. Easy and simple; no experience needed; no cutting to be done; just a little attention every fifth day—and your money refunded if it ever fails. Cures most cases within thirty days, leaving the horse sonnd and smooth. Valuable information and full particnlars given in
Fleming's Vest-Pocket Veterinary Adviser
Best veterinary book for farmers; 192 pages, 69 illustrations. Copy mailed free.
FLEMING BROS., Chemists,
222 Union Stock Yards, Chicago, Ill.

Fernald Double Trace Holder

A trace holder that holds—holds fast—never lets go until you say so. Then it releases the tug at a tonch. Will not clog, freeze, rust or catch the horse's tail; holds both the trace and the loose end. No accidents if your buggy is equipped with the Fernald. 15c. at carriage, harness and hardware dealers, or from us for 5c. more.

Fernald Mfg. Co., Inc.
North East, Pa.
Makers of Fernald Quick-Shifts, Fernald Dash Rein Holders & Spitzli Conplers.

THIS
O.I.C.
SOW WEIGHED 932 LBS. AT 23 MONTHS OLD
IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each oommunity to advertise my herd. Write for my plan, "How to Make Money from Hogs." G. S. BENJAMIN, Masonic Bldg., Portland, Mich.

HORSE OWNERS IT COSTS ONE CENT

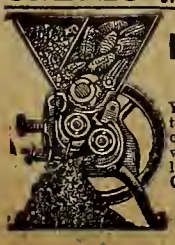
to try the "CLEAN Curry Comb and save dollars in time, labor and expense. Automatic action, durable, effective, easy on the horse, and always clean. Send address—stating nnmber of horses owned, and we'll send Comb postpaid.

Send thirty-five cents after trial, or return at our expense. Valuable Horse Book free. Clean Comb Co., 48 Fifth St., Racine, Wis.

WANTED!! YOUNG MEN!! RAILROAD!!
Steam and Electric Train Service. $65 to $150 per month. Big demand. All roads. Hundreds put to work. Experience unnecessary. Instructions by mail. Five hundred more wanted.
I. RAILWAY C. I. No. 36, INDIANAPOLIS, INDIANA

CALVES RAISE THEM WITHOUT MILK
Booklet Free
J. W. BARWELL, WAUKEGAN, ILL.

Try The
Bull Dog Feed Grinder
10 Days Free



You can grind 5000 bu. of cob and corn to table meal with one set of Rollers and Concaves. Damp grain can't clog it—nails won't break it. Has only 2 inch working leverage which accounts for light running. Get our FREE Catalogue and Samples.
CROWN POINT MFG. CO.
135 E. Road. Crown Point, Ind.

Live Stock and Dairy

A Maine System of Sheep-Raising

ERNEST HILTON of Anson, who is the largest sheep-raiser in Somerset County, Maine, says that sheep can be raised the easiest and the most profit can be derived from them of any animal on the farm. Bert Hilton, who is the next largest sheep-raiser in Somerset County, affirms this. They both work on the same plan. They have worked out a method that has proved successful and they claim it is practical for every farmer to raise sheep under these conditions.

To commence the year, they turn the sheep into the field to start them gaining before they are bred. After the ground gets frozen they are put in the barn cold nights. Then they commence to give the sheep whole corn, believing that a bushel of grain in November is worth more than three in April. As soon as the sheep come into the barn for good they are fed just what good hay they will eat up clean and no more, with grain at night and roots in the morning. The Hiltons always feed clover hay if they have it; otherwise, some kind of soft hay, but never coarse ripe timothy.

The cribs are swept out twice a day. If the sheep are fed out of doors, it must be in a perfectly clean place as the sheep are very neat. The water pails and tubs are rinsed about every day. Then the sheep are bedded with a little straw once a week or oftener as they are very careful to avoid mud.

Outside of pitching down the hay, Ernest Hilton says it does not take more than ten minutes a day to care for the sheep until they get ready to drop their lambs. He does not know of any other animal that is so easy to care for or so profitable.

About a month before lambing time they begin to feed bran and oats with roots of some kind. Only a few sheep are put into a pen, to prevent them from crowding and jamming one another. As the little ones commence to come along only two or three, and if the lambs are weak, only one ewe is put in each pen. The feed is not only kept up, but increased in quantity and, if trying to grow the lambs fast, cotton-seed meal is added to the feed. The rations for the lambs are crushed oats and shorts fed in a separate creep. When the lambs are five days old their tails are docked. The Hiltons shear their sheep the first of April and then when the grass has grown enough they are ready to go to pasture and can stand the cold storms without trouble. Before turning out to pasture they dip all the sheep and lambs for ticks and lice. Then salt once a week is all the care they need until weaning time, when the same process can be gone over again.

JOHN E. TAYLOR.

"Who Cares for the Snow!"
Bert Hilton's Oxford-Down ewes

"Leggo My Chin!"
A prize imported Hampshire ewe—Ernest Hilton

products to the dairy. Thus the farmer sows one crop and reaps two profits.

Corn is the great American feed crop. It has three unassailable recommendations—enormous yield of feeding units, great digestibility and palatability; but while it furnishes much it cannot give everything to the ration. There must be more protein in the feed than corn alone can supply. Therefore to feed corn alone to any animal is to feed it wastefully, for without these other elements lacking in corn, it is impossible for the animal to recover fully all the wonderful value of the corn.

W. F. MCSPARRAN.

Dairygrams

ANYTHING that contributes to the comfort and health of the cow means greater profit for her owner.

Milk-giving is the expression of the fullness of the cow's life. It is her work. It is her method of showing how she has used the talent that has been intrusted to her, but being under man's dominion she must depend upon him to supply her needs. Hence, the cow's performance will never rise above the intelligence, the kindness and the liberality of her owner.

The only way to have clean, pure milk is to keep it clean and pure. After milk is once defiled there is no science or art that can bring it back to its original purity.

Cows elaborate no milk, secrete no butter-fat from pedigrees. These things come from feed, and the good pedigree means that the cow to which it belongs has an inherited right to be able to produce largely from the suitable feeds she shall consume.

The greatest profit in dairying must come from having special purpose cows that shall be able to use the maximum amount of home-grown provender in their rations, so that the farm may make profitable disposition of its

Cured Splint

"I have used Sloan's Liniment on a fine mare for splint and cured her. This makes the third horse I've cured. Have recommended it to my neighbors for thrush and they say it is fine. I find it the best Liniment I ever used. I keep on hand your Sure Colic Cure for myself and neighbors, and I can certainly recommend it for Colic."—S. E. SMITH, McDonough, Ga.

FINE FOR SWEENY.

Mr. J. H. FLEMING, of Stilesboro, Ga., writes:—"Sloan's Liniment is fine for sweeny on mules, and it is also fine for abscess on the lungs, as I know it did my sister good. It helped to cure her."

SLOAN'S LINIMENT

is a reliable remedy for both family and farm use. Very penetrating, needs no rubbing.

Price, 50 cents and $1.00.

Sloan's book on horses, cattle, hogs, and poultry sent free. Address

Dr. EARL S. SLOAN, Boston, Mass., U.S.A.

BROAD TIRES
make good roads and save draft. There's long service in the modern
Electric Metal Wheels
with straight or staggered oval steel spokes. No tires to set, no breakdowns. Fit any wagon. Make a new wagon ont of your old gears. Write for free catalogue.
ELECTRIC WHEEL CO., Box 73, Quincy, Ill.

One Animal and Three Hogs to an Acre

THIS is a fair estimate of the average feeding ability of the soil. On a farm of 80 acres the highest limit of efficiency is 20-acre fields. Large fields diminish the earning power because two small fields alternated will furnish much more support for stock than the same average in one big field. The fence is the important factor; and with the liberal use of gates, unlimited extension and alternation is simple.

The steel in Ellwood fence is specially made from carefully selected stock. It is hard, elastic, tough and springy. The line wires, composed of two or more wires twisted into cables, give each individual wire the shape of an elongated, coiled spring. The fence is therefore sufficiently elastic to take care of expansion and contraction, and yet so rigid when properly stretched as to prevent sagging. The small and permanent mesh is made by weaving one continuous wire throughout the fabric. The mesh or stay wires are so interwoven that slipping is impossible. The triangular truss is the strongest form of construction known. For this reason, Ellwood fence will stand the hardest usage and still retain its shape.

Ellwood Fence is sold in your town. Look for the Ellwood dealer and let him show you his different styles of fence and quote you his low prices. Get his expert advice on your special needs. He is on the spot, buys in large quantities, gets the lowest carload freight rates, demonstrates quality before your eyes and is the man from whom you will get the most for your money.

FRANK BAACKES, Vice President and General Sales Agent
American Steel & Wire Co.
Chicago New York Denver San Francisco
Send for copy of "Ellwood Fence News," profusely illustrated, devoted to the interests of farmers and showing how fence may be employed to enhance the earning power of a farm. Furnished free upon application.

ELLWOOD FENCE

You'll Buy THESE MACHINES when You Know Them

The Waterloo Boy Gasoline Engine

is like a lot of people you and I know. It improves on acquaintance. You must know it to appreciate it.

It's just a fine, substantial, solid looking engine and when the hard work comes it quietly wades in and *does* it.

The Waterloo Boy will develop more power and do a lot heavier work than you ever expected. You can always depend on it. You know what it will do. It is so simple your 10 year old boy can be engineer with perfect success.

The old reliable fly-ball governor keeps the speed steady. It has a patented mixer and new positive igniter. Automatic fuel regulation makes it economical. The speed lever will vary the speed from 50 to 75 revolutions while running.

Starts easy in winter, always ready without fuss or backing, open jacket, frost proof. Nearly all parts interchangeable.

Farmers are "hoosting" **Waterloo Boys** more than any other engine. Does that prove anything?

THE Buttercup Cream Separator

leads the world in efficiency—it skims out 99—99-100% of the cream. It is a standard tested machine and one of the first to combine the wing and disc principles of skimming. It is low down, with heavy base, convenient, light running—has large bowl, easy to clean. Construction simple, few working parts, very durable.

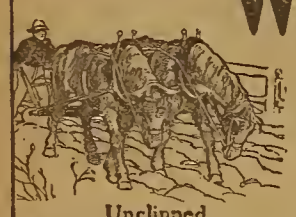
You will buy these machines when you know them and will like them better every day you use them. They will prove your most dependable friends on the farm. Test them at our risk. We send them on **30 DAYS FREE TRIAL** because we want you to know them before you buy them. They are **GUARANTEED FOR 5 YEARS.**

Our record protects you—18 years of making good, of dealing square, of keeping our promises, right down to the slightest detail.

Let us tell you more. Our catalogs are free. Write today.

Waterloo Gasoline Engine Company,
173 W. 3rd Ave.,
Waterloo, Iowa.

WHICH TEAM IS YOURS?



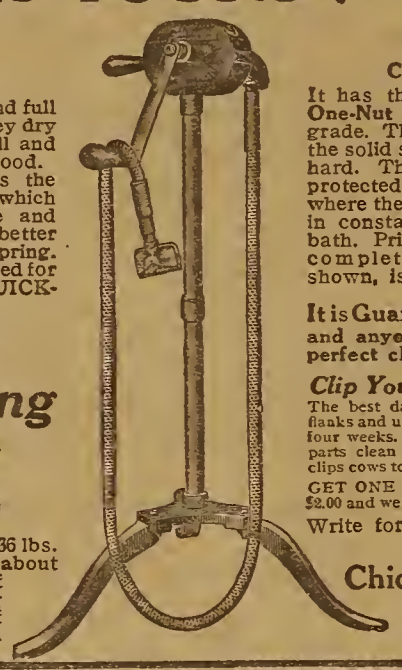
Unclipped

Clipped horses are fresh and full of life and vigor because they dry off quickly at night, rest well and get all the good from their food. Every man who considers the unnatural conditions under which horses are obliged to live and work, assists them to better health by clipping in the spring. No way has ever been devised for doing it SO EASILY and QUICKLY as with this

Stewart Ball Bearing Clipping Machine

This machine weighs only 36 lbs. boxed. You can carry it about anywhere. It has 6 feet of new style, easy running flexible shaft, so all parts of the horse are reached easily.

Clipped



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Live Stock and Dairy

Old Versus Young Sows

WHICH is the better sow for a breeder—the old sow or the gilt? That question was raised recently by a contribution from Mr. A. J. Legg of Nicholas County, West Virginia. It is an important problem, for the choice of the old or young sow is not only important in itself, but it involves a choice between two different systems of swine management.

We have accordingly secured for our readers the additional testimony on this question of five experts in swine breeding, which we give below.

Here is Mr. Legg's letter:

Some hog-growers dispose of sows long before their period of usefulness is past and replace them with young sows. It has always seemed to me that this was a bad practice. The mature sows have more and better pigs than young sows; then the old ones will winter on less feed and come out in spring in better condition than young ones.

The young sow is always an uncertain quantity. She may be careful of her litter or she may eat them upon first sight. An old sow that has been tried and found to be all right and a careful and good mother is likely to remain so. She is much more reliable than the young sow.

A sow is likely to do good service at raising pigs until she is seven or eight years old. I kept a sow until she was past seven years old not long ago, and her last litter consisted of eight pigs. She was slaughtered because I had more sows than I cared to keep. She fattened as readily at this age as a young sow would have done, and from all appearances she would have been a profitable brood sow for one or two years longer if I had needed her. I prefer brood sows from two to seven years old to younger ones.

Wm. Dietrich of the Illinois station, author of "Swine Breeding," the latest and most advanced manual on the subject, says:

I think as a rule an old or mature sow will produce a larger litter than a young sow. Sometimes, also, an old sow will have a better developed udder and can raise a better litter of pigs than a young sow. The latter, however, is not always true and the reverse frequently occurs.

In order to have a good old sow, she must be properly developed when she is young. That is, she must be properly fed and must raise a sufficient number of pigs during the first one or two periods of lactation. In other words, if a sow has only a few pigs in the first one or two litters, the chances are that only the parts of the udder used then will become developed and the remainder will become dormant, so that she will not be able to develop more good pigs afterward than she raised during the first one or two litters.

I believe in the policy of keeping all good old sows as long as they are good producers. Even though young sows are carefully selected, there are always a number of inferior ones in the bunch. In fact, there are never more than a few outstanding good sows in any bunch of gilts that may be selected; and, furthermore, this cannot always be recognized until after having raised the first litter. Some may not be able to produce large litters, others may not breed at all, and still others may not be able to give sufficient milk and so on. Consequently, a herd of sows should be selected in the first place before they are bred, so as to breed nothing but the best ones, and these should be selected again after raising the first litter and all the good ones kept.

Again, sows should be selected at weaning-time and fed for breeding. If they are fed along with the market hogs till the latter go to market, the chances are that they will be injured for future breeding purposes.

In regard to an old sow being able to get through the winter on less feed than a young sow, I would say that a young sow naturally is growing and needs sufficient feed to make this growth, besides being maintained.

Here is the testimony of B. E. Carmichael, chief of the animal husbandry department of Ohio State Experiment Station:

Concerning the relative merits of old and young sows, no definite rules can be given that will apply to all cases. The Ohio station has had young sows that were quite as good mothers as any old sow could be expected to be. In some cases old sows have been far more careless than the average of the young sows. On the other hand, some old sows have proved so valuable that they will be retained for breeding purposes as long as practicable. With both old and young sows the kind of feed that is supplied and the condition in which the sow is kept will have much to do with the behavior of the sow at and after farrowing. Hog-raisers, who do not supply their sows with material richer in protein and ash than corn, are likely to have trouble with pig-eating sows and a small milk flow. Corn should, however, be the basis of even the brood sow's ration in the corn belt; but it should be supplemented by one or more of such feeds as alfalfa hay, clover hay, skim-milk, tankage, soy beans, linseed-oil meal, or other feed of this kind.

[CONCLUDED ON PAGE 19]

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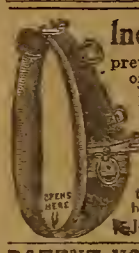

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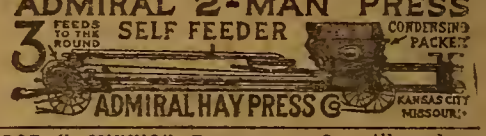

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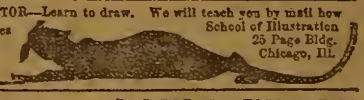

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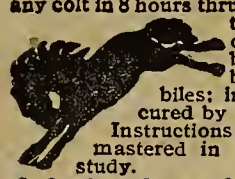

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Live Stock and Dairy

Old Versus Young Sows

[CONTINUED FROM PAGE 18]

The claim is often made that old animals are better for breeding purposes than the younger ones, or than the older animals were when they were young. Except for a greater prolificacy and a better milk flow, it is doubtful if there is any ground for such claims. Some of the finest specimens have sprung from young parents. The fact that breeders aim to retain only the best of the young animals for breeding purposes, probably accounts in larger part for the prevalent opinion that old animals exert a stronger hereditary influence than do young ones.

However, very young sows that are not well nourished themselves could not be expected to produce and nourish strong pigs, and it is undoubtedly true that young sows will require more feed than will mature sows. Sows at one year should be able to give birth to vigorous pigs and to nourish them satisfactorily, if they have been properly developed.

The fact that the young sow herself is growing and does not need to be fed for maintenance solely, makes the breeding of young sows popular, especially with men who do not care to raise two litters a year (for which purpose mature sows are better suited than are younger sows). Moreover, with critical selection, there exists a greater opportunity for improvement in type when young sows are used, for a larger number of generations may be produced in a given number of years. Besides, should a young sow fail to breed, she may be marketed to better advantage and with less loss than an old sow which had been fed for several months solely for her litter.

It seems that men who produce breeding stock will favor the old sow on account of the fact that she is valued for what she has done, and there is a fair assurance of her repeating her performance; while the man who is merely producing market hogs, unless he chooses to produce two litters per year, will probably continue to depend upon young sows for most of his stock, but will keep an occasional old sow that has proved to be exceptionally valuable. As stated at first, no definite rules can be laid down that will always apply.

Lloyd G. Brown, who manages the hog department of the successful farm of Brown Brothers in Minnehaha County, South Dakota, thus summarizes the question of old sow versus gilt:

My experience is that your correspondent is right in his retaining tried brood sows in preference to gilts, but the practice of keeping only gilts to breed from has its advantages. When one keeps gilts, he usually keeps a large number, has the pigs come in May, runs them on pasture with but little feed, fattens them after husking and sells in the winter when the market is low. In this method there is little care needed at farrowing time, the smallest amount of grain is consumed, making the feeding a small chore, and the sow grows along with the pigs; but the crop is marketed at bottom prices. It is a case of small investment, a fair profit and farming big, a system which the American likes.

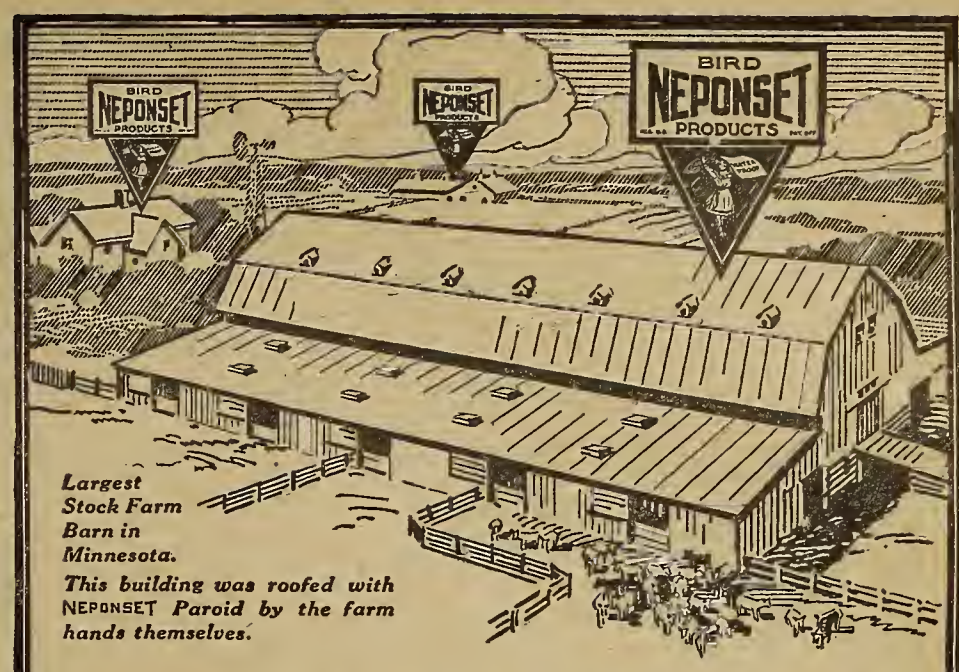
Now the other way: The mature sow is bred for a March litter (this requires a warm farrowing-house unless one lives in a southern latitude) and she is bred again for a fall litter, August or September. The spring pigs can be marketed in the fall before the heavy winter run, while the prices are still good. This marketing vacates the pens, giving the fall pigs the space which by this time they need. The warm farrowing-house gives them good winter quarters and at farrowing time again in March they can be put into the summer sheds. They are then fattened and sold on the summer high prices.

This method requires more expensive equipment and uses more feed when grain is at a high figure; but the additional cost is more than made up in the difference in the returns. In the first place the mature sow farrows more pigs. Of course poor milkers and careless mothers must be culled out. The Iowa Experiment Station conducted an experiment along this line. I have not the figures before me, but I remember them quite distinctly. The sows which farrowed their first litter averaged seven and one half pigs to the litter, the second litter sows averaged nine pigs, and the mature sows ten and one half pigs. The number of pigs raised ran six, seven and two thirds, nine and one half. Besides this, each pig from the old sows weighed more at farrowing and made faster gains because he was more vigorous. The old sows also had less trouble farrowing.

A tried brood sow is a certain income producer. We know about how many pigs she will raise and, if a pure-bred, know the type of pigs she will produce if bred to a tried boar. The tried boar is as important as the tried sow, and if one raises two litters a year he can well afford to keep his boar over until new blood is needed.

However, if a man cannot put up a house warm enough to raise March pigs he had better not try it in sheds, but have his pigs come in May and from gilts as it does not pay to raise November pigs; neither does it pay to keep a mature sow for one litter a year, for the feed used in keeping her over is a dead loss.

The raising of pigs from gilts has put many a feeder on the road to prosperity in the past, but we must heed the handwriting on the wall. This method has served its purpose well in the days of cheap products and cheap lands, but in the future we must employ the more intensive methods that changing conditions demand, and work our porcine machinery to its fullest capacity.



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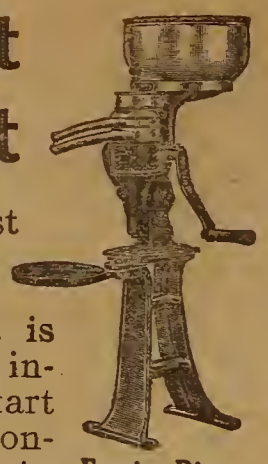

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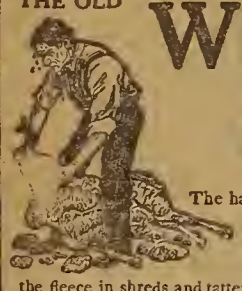

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Weeds are another prolific cause of trouble. By far the most disagreeable is the burdock, but sand burrs are scarcely second in importance. Wool buyers will not pay a high price for wool snarled up with weeds, for there is no machinery made that can separate it without serious damage to the threads.

In some sections, sand causes the most trouble of all. Some summer days, when a high wind is blowing and the sheep are huddled up against some hill, sand from the valley below will be blown against them in a steady stream, until the wool is permeated.

A fleece which is not soaked with manure, or that is free from weeds and sand, is considered to be clean, even if it is not as bright in appearance as might be desired.

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Ringworm

A CASE of ringworm is described by a Michigan reader. One of his calves, he says, began losing the hair around its eyes and later from other parts of its head, the skin of the affected places cracking and bleeding slightly. The trouble was spreading among his calves.

This disease is caused by a vegetable parasite—dermatomycoses it is called by the veterinary profession. But don't try to pronounce the name unless you have a surgeon handy to set your jaw afterward. Better call it ringworm and let it go at that.

To treat ringworm, have the druggist mix for you one ounce of pure carbolic acid in the liquid form and seven ounces of olive oil. Wash the parts with a strong suds made of Castile soap and when dry apply some of the carbolized oil with a brush. Repeat this once in three days if necessary or until the hair ceases to come out. This is a very contagious disease and whole herds may contract it. Therefore, I advise using a little of the oil about the eyes of all of them to prevent the spores taking root there and producing the disease. While it generally commences about the eyes, it sometimes takes hold of other parts of the body. Keep watch of the whole herd and use the remedy upon its first appearance. C. D. SMEAD.

A true shepherd never grabs a sheep by its fleece, but catches it by one ear, a horn or around the neck, if without a crook.

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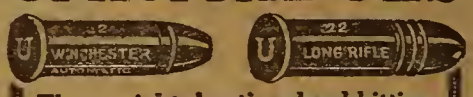

The straight shooting, hard-hitting, sure-firing .22's.

The reason why UMC .22 Cartridges are the best is, that they are made with precisely the same care, the same tested materials, and undergo the same rigid safeguards as the heavier calibre, big game shooting UMC ammunition.

UMC .22's are also made with the hollow point bullets, which increase their shocking and killing power over the old solid bullet.

Try Our New "Lesmok" .22's.

UMC .22 short, .22 long, .22 long rifle Lesmok, Smokeless and Black Powder—as you wish.

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The Union Metallic Cartridge Company
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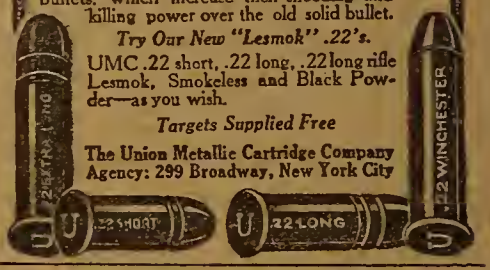
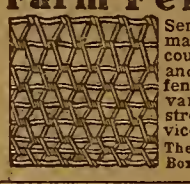
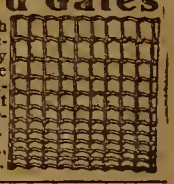


Farm Fence and Gates



Send for prices with manufacturers' discounts on poultry and farm hard wire fence. Best of galvanizing. Great strength—long service. Write today.

The Ward Fence Co., Box 863, Decatur, Ind.



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A Book You Ought to Have

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I Guarantee every wheel and part of the running gear to be made of triple A grade Straight Grained Split Hickory—the same grade exactly as this spoke which I send unpainted as a sample of the material used with every Buggy I ship.

It's a Big Show Room of over 125 kinds and styles of Vehicles for you to choose from—more Vehicles than you could see in ten big towns—or 25 Retailers' Stores.

Each Vehicle is described in smallest detail by Phelps himself—the Practical Buggy manufacturer, both in words and and in big photographs, which show you more about the points you ought to know about the Buggy you're going to buy than you could learn from any other source in a month's time.

Split Hickory Confidence of over 140,000 farmers

$25 to $75 Saved—Or No Sale

—according to style of Vehicle you Buy.

Think of it—Phelps has their confidence—over 140,000 satisfied purchasers are driving Split Hickory Vehicles throughout the United States today—all customers of Phelps, who is the originator of the plan of selling made-to-order Split Hickory Vehicles direct-from-factory-to-user on 30 Days' Free Road Test—on a 2 Years' Guarantee.

Don't you want this New Book—fresh from the printers for 1911? In it you'll find a great variety of Auto Seat Buggies—Runabouts—Surreys—Phaetons—Carriages—Driving Carts—Spring Wagons, etc.—and a full line of high quality Harness. Visit Phelps' Factory through his Big Book—it will cost you only a postal. Just say—"Phelps, send me the Book"—and he'll do the rest.

H. C. PHELPS, President

The Ohio Carriage Mfg. Co., Station 23, Columbus, Ohio

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Live Stock and Dairy

The Lambs on an Illinois Farm

It is very important that the young lambs be started right early in life in order that they may develop rapidly and continuously at a minimum cost. After the lambs are dropped it is a good plan to keep them and their dams separate from the rest of the flock, until they may gain the necessary strength so they may go with the rest of the flock.

The ewes should be fed plenty of roots or other succulent feed and a liberal ration which contains sufficient protein to promote a large flow of milk.

When the lambs have reached an age of ten days or two weeks, a small pen should be arranged in one corner of the sheep barn or yard and a lamb creep provided, by which the lambs can gain access to this pen at all times, while their dams are excluded. Some bran should be put into a trough there, at first, and in a surprisingly short time the lambs will find their way to it and eat a considerable amount. After they have become accustomed to this grain ration, a little ground oats from which the hulls have been sifted, may be added.

This, with what clover leaves they will eat if the ewes are fed bright clover hay, will materially hasten their growth and when springtime comes and they are turned out to grass they will be well started toward sheephood. Where handled judiciously the thrifty single lambs of the larger breeds can be made to gain quite, or nearly a pound a day for the first few months of their lives. I have often raised lambs that weighed forty pounds when five or six weeks old, and have repeatedly weighed lambs when on grass that were gaining from six to seven pounds a week. But in order to get such gains as this, the flock must be handled carefully and be in a thrifty condition.

Change Gradually to Grass

I am confident that a great many farmers and sheepmen make a mistake in taking the grain ration from their ewes as soon as they are turned to grass. It must be remembered that the change from dry feed to the succulent grass is a great one and it is very essential that such changes be made gradually and cautiously. Not only should the grain ration be continued at least until the sheep become thoroughly accustomed to pasture, but the feeding of clover hay should be continued at least once a day for some time after the sheep are turned to grass. Quite often some farmers say that their sheep will not eat the hay after they are turned to grass, but I have found by repeated experiments that they eat a reasonable amount of good clover hay in the early morning with relish. Remember, in making this statement, I say "good" clover hay.

It is better to confine the sheep in a yard with access to the barn at night, especially during the early spring and the early part of the summer when storms are so frequent, and feed the hay in the morning and continue the separate grain ration for the lambs until the pasture gets at its best. Indeed, for most economical results I find that, except during the season when the pasture afforded is the very best, it will pay to grain the ewes until the lambs are weaned. The ewes then go into winter quarters in good flesh and it is unnecessary to grain heavily during the period of winter confinement.

This method of management will give a better clip of wool, a more thrifty flock, and a much better lamb, at a very slight increase in the grain ration. I have found that it is not profitable to try to save feed on any young animal that is intended for the market. The sooner they are placed on the market, at marketable size, the greater will the profit be. R. B. RUSHING.

More for Your Money

A FEEDING problem of wide interest is given us by a New York reader. Here are his special conditions—but the problem is a typical one. He is milking thirty-eight Jersey cows daily, obtaining seven hundred and sixty-five pounds of milk. He feeds the following ration: Three and one half pounds each of hominy, wheat and gluten, or a total of ten and one half pounds of mixed grain; ten pounds of timothy hay; twenty pounds of corn silage. Those amounts are what each cow gets daily.

The market prices at the time of the inquiry for those feeds were about as follows: Hominy feed, $28.00 per ton; wheat chop, $29.00 per ton; gluten, $32.00 per ton; timothy hay, $15.00 per ton, and silage, $3.00 per ton. We were able to suggest a change of ration that would not only give better results, but give them cheaper.

The above ration reckoned on this basis costs at the figures stated, twenty-seven and one half cents per cow per day, and the ration has a feeding ratio of protein to carbohydrates and fat of 1:8.1, which is too wide for best results. The ratio for most economical results should not be much over 1:6.

A ration that can be substituted to good advantage is the following: Ten pounds timothy hay, thirty pounds corn silage, three and one half pounds gluten meal, three pounds wheat bran, one and one half pounds cotton-seed meal.

In our inquirer's vicinity wheat bran was selling for $26.00 per ton, and cotton-seed meal at $33.00 per ton—fair average prices. The ration we recommend, at the prices given, would cost twenty-four cents per cow daily, or a saving of three and one half cents on each cow's daily ration or a total saving of $1.33 a day on the feed of the herd, or a total monthly saving of $39.90.

Timothy Cost and Clover Value

But this is not the only saving worth considering. In most markets good quality timothy hay will sell for $5.00 per ton more than good quality of clover hay; whereas the clover hay has practically doubled the protein element of the timothy. So by feeding clover instead of timothy hay a saving of two and one half cents a day on the hay of each cow's ration can be made and for the entire herd ninety-five cents a day can be saved. Nor is this all.

By substituting clover for timothy in the foregoing ration the cotton-seed meal can be reduced to one pound and the protein will be supplied by the clover and make good the deficiency. This reckoned for the herd makes a saving of nineteen pounds of cotton-seed meal daily and reckoned for the herd for a month makes another saving of $9.40. The total of these items saved is namely: $39.90, $28.50 and $9.40, amounting to $77.80 per herd for each month while fed for milk in the stable.

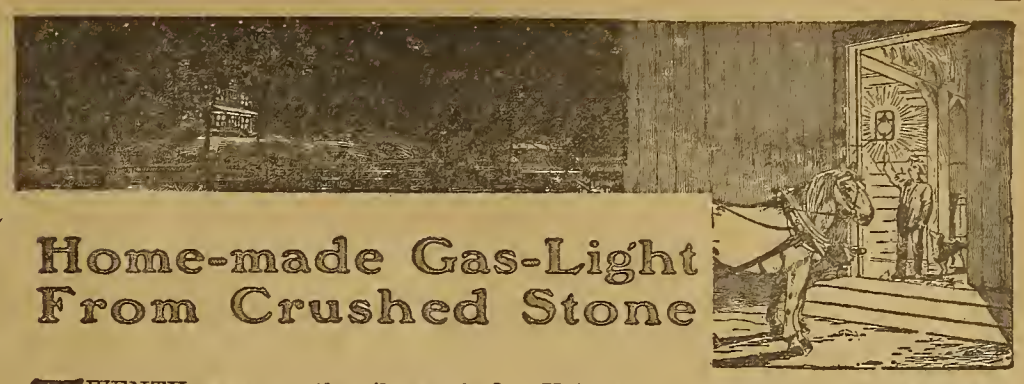
The ration substituted is somewhat above the required nutritive value for medium-sized cows giving an average of twenty pounds of milk daily, but we must not lose sight of the fact that they are also supplying growth and vitality to the calves they are carrying.

This ration will give good results if the feed is of good quality. But of course, much depends on the feeder and care-taker and the judgment that is used in feeding just the right quantity to each cow. Without this good judgment and care to know just how much feed different individuals can make good use of, even the best adapted ration will not bring good results.

It pays to figure out balanced rations with one eye on a feeding table and the other on market quotations. The real purpose of ration-balancing is to do the herd the greatest possible good at the smallest possible expense. B. F. W. THORPE.

To Keep Sow From Eating Pigs

THE question is asked by an Ohio reader of FARM AND FIRESIDE, how to prevent sows eating their pigs? The most common cause is that sows do not receive sufficient laxative protein food during pregnancy. Pig-eating rarely happens when the sow is running on pasture during this period. Vegetables, such as apples or cooked potatoes, fed with wheat middlings instead of all corn, and an occasional slice of cheap meat or even a slice of pork is a good preventive. Often the desire to eat the pigs can be attributed to the sow's being passively insane at the time of farrowing, due to her nervous condition. In such a case, a dram dose of the hydrate of chloral, wrapped in a piece of very thin pork, may be given every half hour until she quiets down. C. D. SMEAD.



Home-made Gas-Light From Crushed Stone

TWENTY years ago the oil lamp had already been driven out of the city into the country home where gas could not follow—so we thought.

In those days we would have laughed at the idea of a country home lighted with gaslight.

But like the telephone and free mail delivery gaslight has finally left the city to become a common rural convenience.

In the year 1911, the up-to-date villager or farmer not only lives in a gas-lighted house, same as his city cousin, but when he drives home on a cold, wet night he actually lights up his barn, his barnyard or porches on his house with this gas-light by simply turning an "ignition" button on a post or wall.

* * *

And this change seems quite like magic when you consider that this rural gaslight is home-made— made by the family itself right on the premises.

CRUSHED STONE

Take fifteen minutes once a month to make all that can be used in a large house.

The magic is all in the curious manufactured stone known commercially as "Union Carbide."

This wonderful gas producing substance, "Union Carbide," looks and feels just like crushed granite. For country home use it is packed and shipped from warehouses located all over the United States in sheet steel cans containing 100 pounds.

Union Carbide won't burn, can't explode, and will keep in the original package for years in any climate. For this reason it is safer to handle and store about the premises than coal.

* * *

All that is necessary to make "Union Carbide" give up its gas is to mix it with plain water—the gas, which is then instantly generated, is genuine Acetylene.

When piped to handsome brass chandeliers and fixtures Acetylene burns with an intensely brilliant, stiff flame, that the wind can't affect.

This flame makes light so white in color that it is commonly called "Artificial Sunlight."

Experiments conducted by Cornell University have proven that it will grow plants the same as sunlight itself.

Physicians recommend Acetylene as a germicide and a remedy for eyestrain, and it is used as an illuminant in fifty-four hospitals in New York City alone.

Then, too, Acetylene is so pure that you might blow out the light and sleep all night in a room with the burner open without any injurious effects whatever.

On account of its being burned in permanent brass fixtures attached to walls and ceilings, Acetylene is much safer than smoky, smelly oil lamps, which can easily be tipped over.

For this reason the Engineers of the National Board of Insurance Underwriters called Acetylene safer than any illuminant it commonly displaces.

In addition to all these advantages, Acetylene light is inexpensive.

An Acetylene light of 24-candle power costs only about 4 cents for ten hours' lighting, while for the same number of hours regular oil lamps of equal volume cost about 6 cents in kerosene, chimneys and wicks on the average.

* * *

Consider this carefully and you will hardly wonder at the fact that there are today no less than 185,000 town and country homes lighted with home-made Acetylene, made from "Union Carbide."

Once a month some member of the family must dump a few pounds of Union Carbide in a small tank-like machine, which usually sets in one corner of the basement.

This little tank-like machine is automatic—it does all the work—it makes no gas until the burners are lighted and stops making gas when the burners are shut off.

The lights located in every room in your house, on your porches, in your horse and cow barns, or barnyards and chicken yards if you like, will all be ready to turn on with a twist of the wrist or a touch of the button at any time of the day or night.

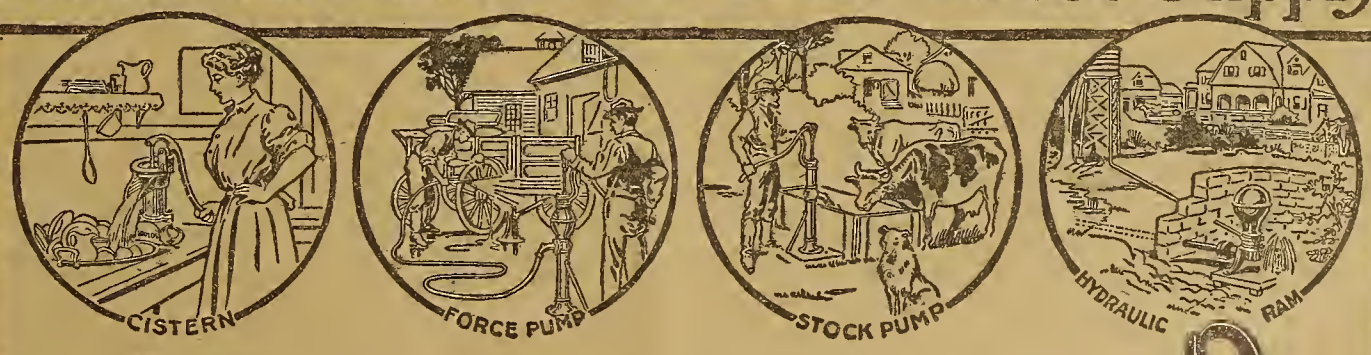
No city home can be as brilliantly or as beautifully illuminated as any one of these 185,000 homes now using Acetylene.

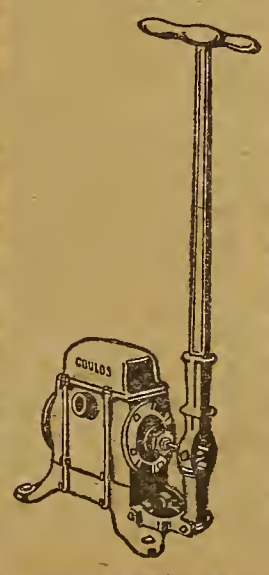
* * *

If you want to be up-to-date, enjoy modern conveniences, and keep the young folks at home, write us how many rooms and buildings you have. We will send you free an intensely interesting lot of facts, figures and booklets.

Just address Union Carbide Sales Company, 157 Michigan Ave., Chicago, Ill. Dept. A. 28.

Make the Most of Your Water Supply





Save many minutes every day—do away with hard disagreeable work by pumping to any place on your farm.

Water right at the sink will save many steps; water in the barn, the stable, dairy or stock yard will save you and your men time and strength that is needlessly wasted, or a Goulds hydraulic ram will pump automatically day and night without expense.

RELIABLE
GOULDS PUMPS

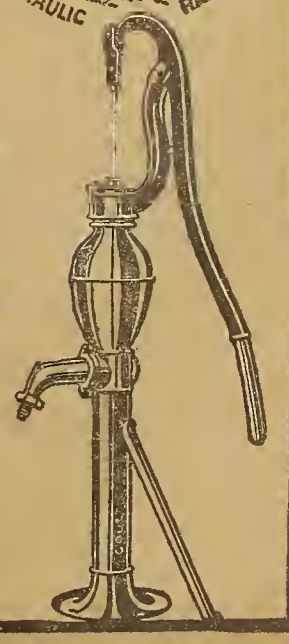
will solve this problem—each different style will give the best possible service for which it is intended.

Write us what you want to do—tell us your requirement and we will gladly help you solve it no matter how small or how large it may be. Send for our free booklet

"Water Supply for the Home"

before you think of buying a pump. It is full of valuable suggestions for better water service.

The Goulds Mfg. Co., 114 W. Fall Street, Seneca Falls, N. Y.



It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best results.

Farm Notes

Potato Peculiarities

Our potato crop last year furnished an interesting study and a brief survey may prove profitable. Those who believe in planting in the signs or on ruling days can learn from it the fallacy of their beliefs.

March and one half of April were real summer months here in central Indiana. Our neighbors were impatient to plant. One believed that St. Patrick's Day was potato-planting day; he had never seen it fail in producing a good crop; another thought Good Friday the opportune time. We warned them of the danger of haste, but to no avail.

The six weeks of summer was followed by six weeks of winter. Their potatoes came up—grew finely till Jack Frost nipped them the third time and the inevitable happened.

We waited until the time we thought the winter would give way to spring; then we planted. We began working among them as soon as the tubers were above ground, keeping the soil loose and free from all weeds—level culture and death to all bugs—with the result that we had a fine crop of spuds while our neighbors had to buy!

The potato is peculiar in this respect: It thrives under conditions of just enough moisture, heat and fertility of soil. Too much of any or of all of these is detrimental. Too early planting endangers the young plant to frosts and cold. Too much moisture rots the roots and tubers. Too much heat makes blight more likely. Too rich a soil produces vines without tubers.

Realizing these things, we ought to know how to grow them. But are we doing this with profit? Does a yield of seventy-five or eighty bushels per acre pay? We think not. The successful grower ought not to be content with less than three hundred bushels per acre, and he can with proper care make it five hundred bushels.

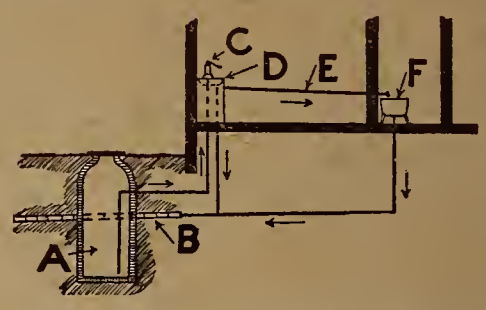
Why not raise our average several points in this important plant industry?

J. H. HAYNES.

A Cheap Home Water-Works

The equipment of the water-supply system shown in the accompanying sketch will cost complete about forty dollars or without the cistern (A) fifteen dollars. Of course, if one has not a cistern, it will be necessary to dig one.

A force-pump should be located in the kitchen (D) in such a way that water can be pumped to the bath-tub (F). All pipes



should be two inches in diameter and should be laid, as shown in the diagram, going three feet below the surface of the ground, to prevent freezing. The tiling, which carries off the waste-water, should be three inches in diameter.

CLAUDE ABBEY.

Pioneering in 1911

[CONTINUED FROM PAGE 5]

railroad, some good land is still open to entry.

Though the land subject to homesteading will probably all be taken by this fall, there will yet remain many thousand acres of tillable but unsettled and unutilized land. A large part of this is owned by private individuals who have proved up and abandoned their claims. Other large tracts are owned by the railroads. Still other unutilized territory, amounting in the aggregate to an enormous area, is held as school lands. Almost none of it has yet been offered for sale. These three classes of raw land comprise together an area equal to some of the smaller Eastern states.

Prices range from ten dollars an acre up. The price depends not so much upon the quality of the land as upon its distance from a market. It is possible to obtain in the more remote regions quarter sections every bit tillable for two thousand dollars to three thousand dollars. These prices double almost immediately on the incoming of a railroad.

Last year was not a very favorable one, but in the good growing seasons for four years back many a farmer paid for his land with his first year's crop. The statement may sound trite, still, with a yield of fifteen to twenty bushels of wheat, which some of the lucky ones got, and twelve bushels of flax to the acre, it does not take long to pay for land worth fifteen dollars an acre.

FLORENCE L. CLARK.

A Friend Misunderstood

[CONTINUED FROM PAGE 4]

All of the foregoing conditions are necessary for a first-class working ram. If the length of the drive pipe be different, or if it be of a smaller or larger diameter, if the waste valve be smaller or larger, if the dome capacity or the delivery pipe differ from the above specification, the ram will either work badly or not work at all. Remember now that all these dimensions are based on the original assumption that we need two gallons per minute, that we have four feet and eight feet fall from the supply to the ram and we wish to raise water forty feet. If any of these figures were different the whole scheme would be changed. In view of all this it is not strange that a ram will not usually work well if set up at random. The majority of rams are set up under such circumstances. Is there any wonder that we find an Anti-Ram Party?

It will be impossible in this article to discuss all the mechanical and hydraulic laws governing the setting up of rams. It would require more space than there is in this entire issue and then it would not be clear to the reader unless he had had thorough training in hydraulics. Nor can we hope to describe the setting up of the ram under all conditions. Each place is different from every other. The thing to avoid is the setting up of the ram yourself unless you have received specific instructions. Always buy your ram from the maker or his authorized agent. Let him know all the conditions, distances and quantities, and then set the ram up strictly according to directions. Have him guarantee satisfaction if the work is properly done. The makers of rams are quite as anxious as you can be that their instruments shall work well. They make their living by the success of their rams.

One more point requires mention. We have here considered a ram that will furnish two gallons per minute. This is a fairly large one. Remember that a ram works all the time. Two gallons per minute means 2,880 gallons per day, which is usually enough for the household purposes of fifty people. If a ram furnishes two quarts per minute, it means 720 gallons per day, which should be enough for the usual farm household. Therefore, if you find your water supply is not as great as that discussed in the foregoing cases, do not be discouraged. The ram works while you sleep and even a small one will pump considerable water between dark and daylight.

A Wonderful New Gasoline Farm Wagon and General Farm Power Machine

Here is the machine that Farmers everywhere have been looking for—a machine that will really take the place of horses for general farm work

Road Work

Field Work

Belt Work

Will Do More Kinds of Work Than Any Other Farm Power Machine

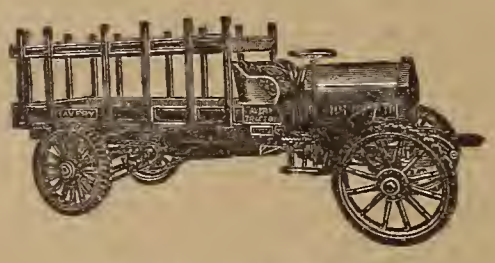
This is the first and only machine that is a Combination Farm Wagon and General Farm Power Machine. It *carries* loads on its own body, *pulls* plows and other machinery in the field and *drives* other machines by belt power. You can do *road work*, *field work* or *belt work*, *all* with this *one machine*.

Entirely Original in Design

All other farm power machines are designed only for furnishing pulling power, but not for carrying a load. The Avery Tractor is the first and only machine built that furnishes power for field or belt work and will also carry loads on its own body.

It is the first and only machine with a variation of speeds of from three miles per hour for slower, heavy work, or up to fifteen miles per hour for fast traveling with a light load.

It is the first and only machine that has a wheel construction that gives it a good footing on a hard dirt road, a macadam road, a muddy road or in a soft field.


THE AVERY FARM TRACTOR
The Wonderful New Gasoline Farm Wagon and General Farm Power Machine

The Story of Its Invention

Everywhere men have been looking for a machine that would really take the place of horses for general farm work.

Many machines have been built to meet this demand, but none of them have been of a design that made them suitable for general use on the average sized farm.

The Avery Company has recognized this need and has been working on the problem for a number of years, and at last, after long and careful planning, experimenting and testing out is now able to offer the *first successful machine* to do the *work of horses* on the *average sized farm*.

Many have already been sold and are in successful use. Severe tests have proven that they are able to stand up under hard service and that they are reliable.

Find Out at Once About This Wonderful New Farm Power Machine

Our free catalog gives full description of its construction as well as pictures showing it doing a large number of different kinds of work. Ask for a catalog, and find out all about the *Avery Gasoline Tractor*.

Avery Company

532 Iowa Street, Peoria, Ill.

Also Makers of Steam Plowing, Threshing and Corn Growing Machinery. Send for Catalogs.

Farm Notes

"Yours With Success"

Two Selling Lessons Drawn From Experience

A FEW issues ago we published, under the title "A Gardener's Selling Lesson," an argument by one of our correspondents in favor of selling direct to stores, or wholesaling, as against peddling, or retailing to consumers. It had been his experience that the annoyances of peddling far outweighed its advantages in the way of better prices.

A Connecticut reader has had a very different experience. He has succeeded in eliminating the drawbacks of housc-to-house retailing. Here is his system:

For a number of years I wholesaled all my truck and found myself at the end of the season with a very small margin. So I decided to peddle.

That was a year ago last August. In starting my route I began in the first-class section of the city, went to entire strangers and informed them that I would call twice a week, Tuesdays and Saturdays, and that I would carry first-class vegetables, eggs and poultry.

I called regularly. I dressed neatly and cleanly, and my wagon and load were kept clean. I informed my trade that I would takc back anything that was not good, but I have never had to take anything back. I did not call out from the wagon—always called at the back door, pad and pencil in hand, took the order, went to the wagon and put it up neatly in a basket.

People sent me to their friends, and my route increased so I had to hire a wagon-boy to help. I use one horse and a good-sized wagon and don't havc enough produce to go around. In fact, I have refused enough customers to put on another route.

Pass By the Troublesome Ones

The trade I now have has been selected carefully. I dropped the poorer customers that it did not pay to stop for. My losses since starting have been just twenty cents. The route is now of excellent, honest people and should give me a handsome living for the rest of my days.

You sell a bushel of onions at wholesale in this vicinity for sixty-five to seventy-five cents a bushel. Sell to the consumer, and you get five cents per quart, and thirty-two quarts to the bushel gives you $1.60. Isn't that enough for anyone? Whcn I wholesaled, the grocer made the price both ways—if I sold to him, I had to sell at his price; if I bought from him, I had to pay his price.

My vegetables are, of course, the best I can grow. The finest seed-potatoes are selected, and so on. My customers are actually enthusiastic over my truck. Try and take one from mc if you can—I am not worrying.

As far as buying goes, I can buy anywhere I want to and pay cash, and grocers seem glad to get my trade.

After New Year's I go to town but once a week. In my trenches and cellar are supplies of cabbage, carrots, onions, potatoes, parsnips, turnips, beets and squash. Celery I buy from a neighbor, but shall try and raise that this year.

I have an established business and a handsome income, though my land is only sixteen acres, eight acres under cultivation. As for getting cash, I never had over three dollars standing out at a time, but get my cash as I deliver. Yours with success,

H. V. DAVIS.

An Ohio farmer adds these further points to the discussion, drawn from his own experience:

It has been asserted that if any producer is to get a sizable share of the consumer's dollar he must be located near a city. This is not always the casc. In our own experience, after we had been growing truck and fruit crops, and selling them on a large city market for some years, we found it expedient to return to the old farm, away from the city, where only ordinary farm crops were grown, and produce sold to the local stores. The dealers who got the butter and eggs perhaps sold a small quantity of the best of the butter locally, at retail, and shipped the rest, with eggs, etc., to commission men in the city, where also the poultry was sent, while potatoes were also shipped there by the car-load, and fat hogs shipped away, as also hay and other crops.

Outflanking the Middleman

Under such conditions we began to look about, and found that a town of some nine thousand inhabitants, thirteen miles away, was having produce, truck and fruit largely shipped in from wholesale dealers and commission men in the city, so that whoever produced these goods was obliged to share the consumer's dollars with his local dealer, and the wholesale or commission man, while two slices went to the railroad or express company, and a final slice for the local retailer. We soon discovered that instead of taking our butter and eggs to the local stores, and thus contributing liberally to the support of these middlemen, it was a better business proposition to make weekly trips and deliver the produce, etc., to a number of parties in town who were willing to pay well for better quality than they could get at their grocery. We soon found an outlet, in addition to butter and eggs, for surplus poultry, lard, sausage and other meats, cured hams and shoulders, potatoes, apples, apple-butter, fresh cider, vinegar, pop-corn, nuts, honey, maple-syrup, and even corn, oats and wheat for chicken-feed for some who keep a small flock of hens; and having previously acquired something of the habit of growing truck and fruit, we began to grow such things as seemed to be particularly in demand. We now grow more and more of vegetables and fruit, and with all this increased acreage we can scarcely keep pace with the demand; for by making these trips regularly new customers are added. Even grocers have been regularly supplied, at good prices, because they would rather buy of us than have things shipped, as the quality is always so much better, with no waste, delay, express or freight charges.

In general, we are getting better prices now than we could get on a large city market, except for such things as border on luxuries and those that by reason of special quality bring high prices. For those there is always better sale in large cities. There is this difference, that we cannot grow a large crop of any one special thing, as a rule, as we were in the habit of doing for the city market, but rather must regulate our production so as to have a constant supply of as great a variety of things over as long a season as possible.

Making the trip, of course, always means the loss of a day from other work, but there is generally the loss of part of a day anyway, even when produce is taken to the local stores, while aside from the full prices we get for our own things, we usually take some of our neighbors' butter and eggs along, allowing them as much or a trifle more than they get at the country stores, and still have profit enough on these to about furnish the family supply of groceries, which we usually get at pretty close prices, because we buy for cash in reasonably large quantities. We also do our banking and other necessary city business on those days, so that we consider the time well spent. C. WECKESSER.

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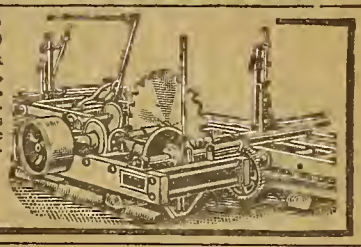

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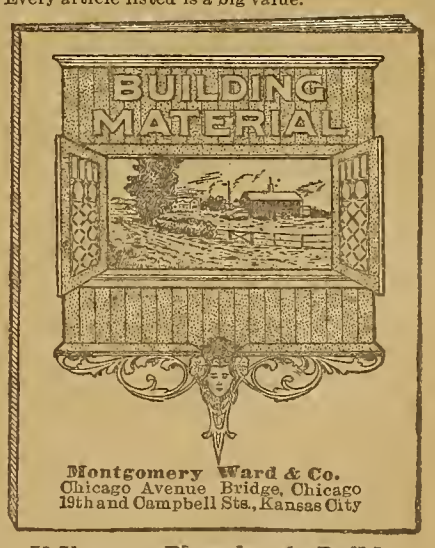

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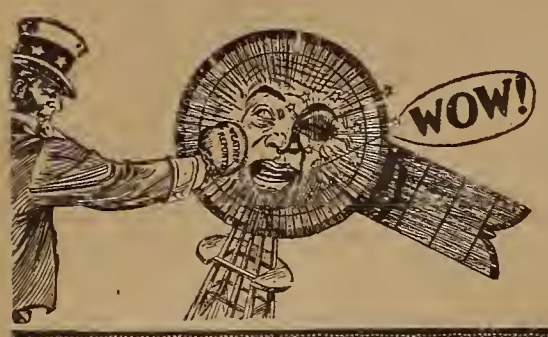

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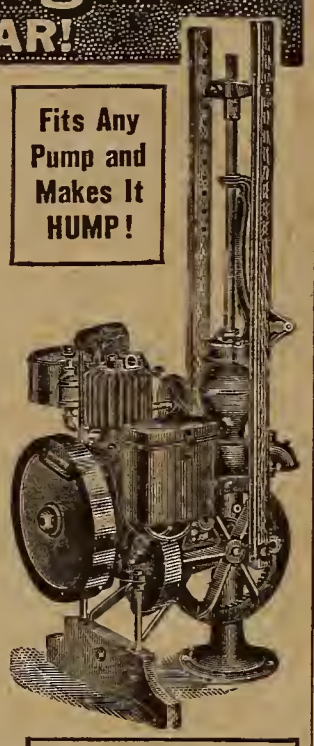

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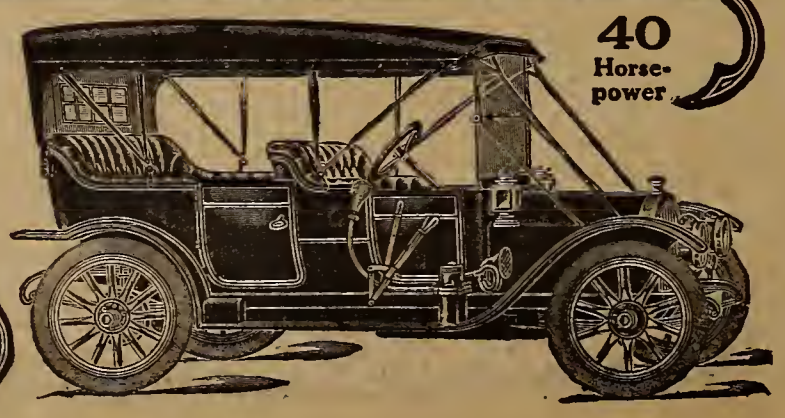


Farm Notes

A Partnership of College and Country School

In Iowa the agricultural college has a rural school extension department that is of inestimable service to the public schools. All alert county superintendents use the professors and honor students of the institution at Ames, and in return the college utilizes the zeal and devotion of the public-school people. Through this reaction of the one upon the other the college and public schools are benefiting beyond expression the sons and daughters of the farms in domestic and agricultural activities, and the college is immeasurably improved in spirit and power for usefulness.

In demonstration of this usefulness I report two days that I spent, some time ago, with two of the representatives of the college at Ames in Wright County—Prof. H. H. Pugh of the Animal Husbandry Department and Mr. Moore of the Farm Crops Department. In response to an invitation from County Superintendent O. H. Benson, these men joined us in school visitation and at a school township fair.

In one school we spent a forenoon. Every pupil came from a farm home. Of the twenty children in the rural school twelve were in the agricultural class, and the visitors were let loose upon these boys and girls. They had studied a sensible text-book on agriculture and under the inspiration of the school had studied their own farms and those of the community. They knew the size of every farm in the neighborhood and the price per acre of every farm recently sold in the township. They knew the breeds of cattle, sheep and hogs raised thereabouts and the characteristics of every standard variety. They knew how many cows, steers and sheep their fathers had and who had the largest number of each in the township. They knew the average corn yield of the state and what was the largest yield in the district. It was especially interesting to hear them explain the advantage of having hogs run at large in pastures. It is cheaper, the hogs are healthier, have larger frames and fatten quickly when put on grain. The time of shearing and the relation of each breed to its shearing furnished an interesting discussion.

The School Ground a Fair-Ground

Of all the good things in Wright County, that which appeals to me most is the township fair, because in all my study of rural schools this is original and highly suggestive. Each of the sixteen townships in the county has a fair annually, half of them in the spring and half in the fall. Superintendent Benson has a tent which he takes to the school where the fair is held. The school-yard is for the afternoon turned into a cattle show and in the evening there is a public meeting in the school-house. The patrons of the district contribute money for prizes, half of which is given for the best stock and products and half for skill in judging stock and crops.

That which interested me most at this fair was the stock-judging contest. Professor Pugh gathered about him the larger boys, and with a ten-months-old bull taught the essential points that make for value. The men from the farms stood behind the boys and listened to the remarkable scientific object lesson. "The head must be distinctly bullish, the legs short, the muscles of hind legs thick. He must be thick and deep just back of the shoulders to be sure there is ample room for the lungs. Half of the entire meat value of a steer is just in front of the hips and the bull should be very broad here, and deep. The skin, especially on the side, should be loose so that it can be easily taken up with the hand. The animal should be true to its type."

There were five other young bulls in competition and the boys estimated the merits of each on the basis of this instruction. The boys decided upon the best animal and then stepped aside with Professor Pugh and told just why this one was better than each of the others. The boy who best satisfied the expert from Ames received a five-dollar gold piece.

Thus the various exhibitions were passed upon. The interest on the part of the fathers was no less keen than that of the boys, and the immediate profit to them was as great as to the pupils. A. E. Winship.

Since this was written Superintendent Benson of Wright County has been taken into the service of the national government as an "expert in agricultural education"—a notable indorsement of his work.

When the Fire is in the Heart

Riding on the stage a while ago I met a man that stirred me up from the very bottom. I was ashamed at the same time, and I have not yet gotten over the feeling that I have done nothing yet in all my life that was really worthy of me. Would you not like to hear this story? It is as true as any you ever heard.

This man was already in the stage when I got in. It was not long before he opened up conversation. Almost the first question he asked me was, "What do you think about commercial fertilizer? Can I keep my farm up with it?" From that time on we had a "continual stream" of talk about farming till the trip ended two hours later. Then, when we came to leave the stage I got a jolt that pretty nearly upset me. The man that had told me more about good farming than I had dreamed of had to be helped out of the wagon. He had a piece of clothes-line hitched about his waist and running down to his left foot, where it passed under the instep. That was the only way he could keep that foot from dropping down and tripping him. The right hand carried a cane. It was pitiful to see him try to get along. I took his grip-sack, and was as glad to do it as if he had been the President of the United States, and then I went at it to find out some more about the man's history.

Seven or eight years ago he was thrown out of the back of a wagon. The fall injured his spine so that for years he was totally paralyzed below the waist, and he never has fully recovered from the accident, though he is improving and hopes some day to be quite like himself again.

At the time of the accident, this man had a farm which he still owns. He was doing things on his farm, and the great cry of his soul was how he could do better. Maybe it would be better to let him tell his own story of the work he is carrying on.

Undaunted

"I have to hire everything done, of course. I don't want to let Tom, Dick and Harry live on my farm, and so I have let out the plow land and hired the haying done. If I could, I would keep cows. I know that is the best way to keep the land up, but as I am fixed now I can't do it. I must depend on commercial fertilizer. When oats are sowed I have fertilizer put on and again after the land is seeded down I top-dress frequently. I depend mostly on the hay for my return from the farm.

"Not all the farm is under cultivation by any means. I have not been able to bring it under the plow, but I am gaining on it some. This year I had thirty-five acres of meadow land to cut. I have just been up attending to the work of pressing it. From the thirty-five acres we cut forty-six tons of good, clean timothy-hay. I can't use clover, because the market calls for timothy.

"It cost me two hundred and sixty dollars for fertilizer and work in getting the forty-six tons cut, and it brought me ten dollars a ton, so that I have two hundred dollars clear for my hay this season. I believe my meadows are growing better every year.

"But I see some sorrel is coming in and that troubles me. I want some lime on the meadows, but I can't get anybody to draw it and apply it to the land. They don't like to handle it. But I am corresponding with a firm that makes a machine to spread lime without having so much trouble with it, and then I have heard of a waste from the steel mills that has lime in it—not a large percentage and it is not available so soon as clear lime is, but I am told that it is good and lasts longer. I tell you it is a problem for a man to get along as I am!"

But he did not complain at all. He was so glad that he was getting better and that he could do what he could! Then he went on:

"Over where I live now, with my father, we have poultry." Then I got another side of his life. They have full-blooded White Leghorns and ship their eggs to a man in New York who gives them the highest market quotations, depending on what he can get above that figure for his commission. It costs two cents a dozen to pay express charges. The crates are kept till there are a number of them in the city, when lower rates are obtained than if they were shipped back separately.

It would take too long now to give all the good points I learned from this man as to the poultry business, but you can see that even if he is doing things under difficulties, he is really doing them. He is living a happy life in the face of troubles that would knock some men out, and he is doing it just because he has the fire of a great ambition in his heart.

Isn't this enough to make the rest of us ashamed? How our own souls ought to be warmed and inspired by the story he told!

E. L. Vincent.

The FARMERS' LOBBY.

By Judson C. Welliver

THE editor has promised that I am to call the roll from time to time. For derelictions in this an explanation is necessary. There have been few roll-calls this session; fewer yet that were important. But there have been enough to provide some interesting commentary for people who believe in keeping tab on their statesmen. Personally, I think there is no more serious duty of the citizen than to know how his representatives have voted. If all the people would make it their business to know how their spokesmen are speaking and would govern themselves accordingly, the voice of the people would be heard more often and vigorously in the product of legislative bodies.

When a measure is pending, nothing does so much to decide how members will vote as letters from home. Letters from home passed the pure-food law and the meat-inspection act. They "put over" the railroad-rate legislation, and they will probably pass the reciprocity agreement, if it passes. They will defeat the proposal to increase postal rates on magazines, because the folks at home have risen up in a marvelous protest against that bit of class legislation—a measure designed to punish the magazines for being unduly independent in their attitudes about various public questions.

This affair of raising the postal rate is different from any other legislative proposal I have seen in Congress. A year ago it was proposed, but the protest was so vigorous that the idea was dropped. Most people thought it was permanently dropped.

They were wrong. Postmaster-General Hitchcock returned to bat this winter with the same proposition, but made little noise about it. The post-office appropriation bill passed the House without a suggestion of such a change. It went to the Senate, and was referred to committee. It was considered at some length; and then, just before it was to be reported, two or three senators were summoned to the White House, talked to about the desirability of mulcting the magazines, and went back—to get the increase written into the bill just before it was reported! No hearings were had; nobody was asked to present arguments pro or con; it was all done in the secrecy of the committee-room, a star-chamber proceeding that, considering the immensity of the interests involved, rendered the motive quite liable to all the suggestions that have been made about it.

Saving the Bacon of the Express Companies

AS SOON as it was known that the committee had inserted the amendment, the storm broke. The publishers flocked to Washington to protest. Newspapers, which were not affected by the increase, joined the magazines in the fight, because they suspected that once the magazines were subjected to such regulation, the turn of the newspapers would come next. But the really effective protests came from the people who buy magazines, farm journals, religious papers and other periodicals. These saw that if the rate were raised, their papers would have to cost them more; and the idea of taxing intelligence, in order that the express companies might be permitted to continue their graft of handling parcels that ought to go through the post-office was too much for the people back home.

It's this way. The law contemplates that the post-office shall monopolize mail business. But for many years the post-office authorities have refused to enforce their monopoly of the parcel business, letting the express companies do most of it, even in parcels of the size that the post carries. Now, this relinquishment of an immense volume of traffic to the express companies has resulted in a great reduction of postal revenues from what they ought to be. The consequence is that the Post-Office Department is run at a loss instead of a handsome profit. Postmaster-General Hitchcock wants to make it pay better; so he proposes, not to enforce the monopoly of the light parcel business, but to raise the rates on reading matter!

It was a simple question of taking the money away from the readers of magazines, or taking the business away from the express companies. The express companies are rich and powerful; the readers are unorganized, scattered and presumably not much interested, individually; so it seemed easy to decide in favor of the express companies and against the readers.

That is about all there was to it, except that the readers turned out more interested than had been expected, and the protest they raised has been doing sad injury to the welkin around these immediate parts. As I write, the Senate has not voted on the item; but the best information is that the proposition will be defeated or carried by a very close vote in the Senate, and defeated by a big vote in the House, and finally will go out of the bill.

About the roll-calls of the present session—there will be none of more interest than this coming one on the postal amendment, if it reaches the roll-call stage. Meanwhile, there have been three—two in the House, one in the Senate—of large public interest.

The Roll-Call on the Tariff Commission

THE first was on the tariff commission measure, January 30th. By the vote of one hundred and eighty-six to ninety-three the bill passed the House. The measure does not need discussion here, for it has been so thoroughly set before the country. Most of the Republicans voted for it, most of the Democrats voted against it; but it was by no means a party vote. There were one hundred and one votes not recorded, because of absence; so if your congressman's name does not appear in this list, you know he was absent. The yeas and nays were:

YEAS—186

Alexander, Mo.	Gardner, N. J.	Maynard
Ames	Garner, Pa.	Miller, Kans.
Anderson	Gillett	Mitchell
Anthony	Good	Mondell
Ashbrook	Goulden	Moore, Pa.
Austin	Graff	Morehead
Barchfeld	Graham, Pa.	Morgan, Mo.
Barnard	Greene	Morgan, Okla.
Barnhart	Gronna	Morrison
Bartholdt	Guernsey	Morse
Bartlett, Nev.	Hamer	Moss
Bates	Hamilton	Moxley
Bennet, N. Y.	Hammond	Murdock
Bennett, Ky.	Hanna	Murphy
Bingham	Hardy	Needham
Booher	Haugen	Nelson
Borland	Havens	Nicholls
Boutell	Hawley	Norris
Bradley	Hayes	Nye
Brantley	Higgins	Olcott
Burke, Pa.	Hill	Padgett
Burke, S. Dak.	Hinshaw	Parker
Burleson	Hollingsworth	Parsons
Butler	Howard	Payne
Byrns	Howell, Utah	Peters
Calder	Howland	Pickett
Calderhead	Hubbard, Iowa	Poindexter
Campbell	Humphreys, Miss.	Pou
Cantrill	Kahn	Pratt
Cary	Keifer	Pray
Cassidy	Keliher	Prince
Chapman	Kendall	Pujo
Clark, Mo.	Kennedy, Iowa	Randell, Tex.
Cocks, N. Y.	Kennedy, Ohio	Reeder
Cole	Kinkaid, Nebr.	Roberts
Cooper, Wis.	Kinkead, N. J.	Sharp
Cowles	Knapp	Sheffield
Cox, Ohio	Kowland	Simmons
Crumpacker	Kopp	Slemp
Currier	Kustermann	Smith, Iowa
Dalzell	Lafean	Southwick
Davidson	Langham	Stafford
Davis	Langley	Steenerson
Dickinson	Lawrence	Sterling
Diekema	Lenroot	Stevens, Minn.
Dodds	Lindbergh	Sulloway
Douglas	Lloyd	Tawney
Driscoll, M. E.	Longworth	Taylor, Ala.
Durey	Loud	Taylor, Ohio
Dwight	McCall	Thistlewood
Ellis	McCreary	Thomas, Ohio
Elvins	McCredie	Tilson
Englebright	McKinlay, Cal.	Underwood
Esch	McKinney	Volstead
Fassett	McLachlan, Cal.	Vreeland
Fish	McLaughlin, Mich.	Wanger
Focht	McMorran	Washburn
Foelker	Madden	Weeks
Foss	Madison	Wickliffe
Gallagher	Malby	Wiley
Gardner, Mass.	Martin, S. Dak.	Wilson, Ill.
Gardner, Mich.	Massey	Woods, Iowa

NAYS—93

Adair	Floyd, Ark.	Maguire, Nebr.
Adamson	Foster, Ill.	Martin, Colo.
Aiken	Gaines	Mays
Ansberry	Garner, Tex.	Moore, Tex.
Bartlett, Ga.	Garrett	O'Connell
Beall, Tex.	Godwin	Oldfield
Bell, Ga.	Gordon	Page
Boehne	Graham, Ill.	Palmer, A. M.
Bowers	Hamlin	Rainey
Burgess	Hardwick	Rauch
Byrd	Harrison	Robinson
Candler	Hay	Roddenbery
Carlin	Heflin	Rucker, Colo.
Clayton	Helm	Rucker, Mo.
Cline	Henry, Tex.	Shackleford
Collier	Houston	Sherwood
Conry	Huhbard, W. Va.	Sims
Cox, Ind.	Hughes, Ga.	Sisson
Craig	Hughes, N. J.	Small
Cullop	Hull, Tenn.	Smith, Tex.
Dent	James	Sparkman
Denver	Johnson, Ky.	Stephens, Tex.
Dickson, Miss.	Jones	Sulzer
Dixon, Ind.	Kitchin	Talbott
Driscoll, D. A.	Korhly	Taylor, Colo.
Edwards, Ga.	Latta	Thomas, Ky.
Ellerbe	Lee	Thomas, N. C.
Ferris	Lever	Tou Velle
Finley	Lively	Watkins
Fitzgerald	McDermott	Wilson, Pa.
Flood, Va.	Macon	

The Senate Locks Horns on Ship Subsidy

THE most remarkable roll-call of the session was on February 2d, when the Senate voted on the ship-subsidy measure. There were thirty-nine votes for and thirty-nine against the bill. Vice-President Sherman, who gets a vote only in case of a tie, voted for the first time in the Senate, over which he has presided for more than two years; and he voted in the affirmative, carrying the measure. This roll-call is one for which there has been considerable demand among readers of FARM AND FIRESIDE. Most of the inquirers have intimated that they were prepared to be displeased if their senators voted for the measure. Anyway, here is how they voted:

YEAS—39

Bradley	Dixon	Nixon
Brandegee	du Pont	Oliver
Briggs	Flint	Page
Burkett	Frye	Penrose
Burnham	Gallinger	Perkins
Burrows	Guggenheim	Piles
Carter	Hale	Root
Clark, Wyo.	Heyburn	Scott
Crane	Jones	Smoot
Cullom	Kean	Stephenson
Curtis	Lodge	Warner
Dick	Lorimer	Warren
Dillingham	Nelson	Wetmore

NAYS—39

Bacon	Fletcher	Percy
Bankhead	Foster	Shively
Beveridge	Frazier	Simmons
Borah	Gamble	Smith, Md.
Bourne	Gronna	Smith, Mich.
Bristow	Johnston	Smith, S. C.
Brown	La Follette	Stone
Burton	McCumber	Swanson
Chamberlain	Martin	Talliaferro
Clarke, Ark.	Newlands	Taylor
Crawford	Overman	Terrell
Culberson	Owen	Thornton
Cummins	Paynter	Tillman

NOT VOTING—13

Aldrich	Depew	Sutherland
Bailey	Gore	Watson
Bulkeley	Money	Young
Clapp	Rayner	
Davis	Richardson	

The Roll-Call on Reciprocity

ON FEBRUARY 14th the House voted on the bill to carry into effect the reciprocity agreement with Canada. This may generally be set down as the most important roll-call of the session to this date. All but five Democrats voted for President Taft's plan. Most of the extreme stand-pat Republicans voted against it, and so did most insurgents. The administration Republicans largely voted for it; and the conclusion was that, in a division altogether unprecedented, the reciprocity plan carried, two hundred and twenty-one to ninety-two, with sixty-seven not voting and four answering "present." To save space I shall give first those who voted "no:"

NAYS—92

Bennet, N. Y.	Goebel	Morgan, Mo.
Bradley	Good	Morgan, Okla.
Broussard	Graham, Pa.	Morse
Burke, S. Dak.	Grant	Moxley
Burleigh	Guernsey	Nelson
Campbell	Hamer	Norris
Chapman	Hammond	Olcott
Cole	Hanna	Pickett
Cowles	Haugen	Plumley
Creager	Hawley	Pratt
Currier	Hayes	Pray
Dalzell	Hull, Iowa	Prince
Davidson	Humphrey, Wash.	Pujo
Davis	Keifer	Reeder
Dawson	Kendall	Scott
Dodds	Kennedy, Iowa	Simmons
Dwight	Kennedy, Ohio	Smith, Iowa
Ellis	Knapp	Snapp
Elvins	Kopp	Southwick
Englebright	Langham	Steenerson
Esch	Lenroot	Sterling
Estopinal	Lindbergh	Swasey
Fairchild	Loudenslager	Thistlewood
Fassett	Lowden	Thomas, Ohio
Focht	Lundin	Volstead
Fordney	McLachlan, Cal.	Wanger
Foster, Vt.	McLaughlin, Mich.	Washburn
Fuller	Malby	Webb
Gaines	Martin, S. Dak.	Wheeler
Gardner, Mass.	Mondell	Woods, Iowa
Gardner, N. J.	Moore, Pa.	

NOT VOTING—67

Allen	Hubbard, W. Va.	Ransdell, La.
Ames	Huff	Rhinock
Andrus	Hughes, W. Va.	Richardson
Barclay	Johnson, Ohio	Rothermel
Bates	Joyce	Rucker, Colo.
Bennett, Ky.	Kahn	Sabath
Capron	Lindsay	Sheffield
Coudrey	Livingston	Smith, Cal.
Crow	Loud	Smith, Mich.
Diekema	McGuire, Okla.	Sperry
Driscoll, M. E.	McMorran	Spight
Edwards, Ky.	Maynard	Sturgiss
Foelker	Millington	Sulzer
Fornes	Moore, Tex.	Talbott
Fowler	Mudd	Tawney
Gardner, Mich.	Murdock	Townsend
Gill, Md.	Murphy	Wallace
Gill, Mo.	Palmer, A. M.	Willett
Goulden	Palmer, H. W.	Wilson, Pa.
Hamilton	Patterson	Wood, N. J.
Howard	Payne	Woodyard
Howell, N. J.	Pearre	
Howell, Utah	Randell, Tex.	

Four members—Burleson, Calderhead, Riordan and Langley—answered "present," but did not vote.

All the other members of the lower house, aside from those already listed, voted for the reciprocity proposal.

" 'Look!' he cried. 'That is your name, isn't it?' "

POOR RELATIONS

By Adelaide Stedman

Author of "Miracle," "Intellectual Miss Clarendon," Etc.

Illustrated by Herman Pfeifer

Part VIII.—Chapter XXI.

MR. CHARLES MARTIN'S offices were a terror to the uninitiated. To reach the heart of them, where the man himself sat in a nest of mechanical time-saving appliances, was to pass through a grilling "third degree" in which the visitor "stated" everything he wanted, and very much he did not.

On the morning following Mr. Martin's angry scene with his son, an old man, a man withered and shrunken with the grip of years, announced himself as the brother of the procurer of all this red tape.

A clerk smiled at him skeptically, as he looked at his shabby, lustrous suit, at all the evidences of poverty which clung to him. "Come out of it!" he chuckled. "That's a good gag, but—" He shook his head. "What's your real business?"

The old man's transparent cheeks reddened. "You impudent jackanapes," he growled. "Give me a pencil and paper, and take a note in to Mr. Martin."

"Desk to your left." The clerk pointed with one thumb, meanwhile snickering to a clerk, "Brother! I guess we'd have seen him before this if it were true. Brothers don't forget to call on men like C. M." "C. M." was the title by which the employer was known about the office.

In a minute the alleged Mr. Martin beckoned his tormentor. "Take this in," he ordered, handing him a sealed note.

The boy entered the private secretary's office sanctum a little curiously. "Note for C. M.," he explained, "from an old fellow who says he's his brother."

The secretary stepped inside the heavy mahogany door and handed Mr. Martin the envelope. "Man says he is your brother," he smiled, "it didn't work with the boys, though."

The man read the letter, frowning and annoyed. What did George want now? "I *must* see you," the note said. That meant trouble. "I'll stay until I do." He frowned more heavily. He remembered that his wife had sent her flowers and condolences to Joseph when George's daughter had died, and that he had written an angry letter in response, but could not be concerned about that now. However, Mr. Martin did not want the old man sitting about, babbling of relationship, so he finally ordered:

"Show the gentleman into my son's office, and tell him to wait."

His junior disappeared instantly, only outside of the door allowing a surprised whistle to escape his lips.

With vastly more respect the old man was ushered past the rooms where many lesser dignitaries held forth, and into Fred's office. It was empty.

"You can wait here, sir," the boy informed him and vanished.

The office was elaborate, almost effeminate. It was furnished in Circassian walnut, with the chairs and couch upholstered in purple leather. At the windows hung straight lengths of the same materials, giving a rose tone to the room. It looked more like a studio than the office of a banker's son.

The old man's face worked spasmodically. His fingers twitched and fumbled with nervousness. An hour went by, and still no one came. A brass screen occupied a space between two windows. The old man wandered toward it, curious to see what it concealed. There was nothing more mysterious than a rack, heavy with hats and coats. His curiosity satisfied, he turned to a window and soon became fascinated by the pin-head panorama unfolded. For a long time he gazed down from his eighteenth-floor pinnacle at the beehive island palpitating with life. The sudden tiny spurts of automobiles and carriages, the hurrying pygmy people—it all looked changed, like the moving film of a cinematograph. His own figure was entirely hidden from view behind the capacious screen, when abruptly he became conscious of the scraping of a pen behind him, and faced about wondering. Sure enough, there at the desk sat an over-dressed young man absorbed in some writing at which he was gazing intently, evidently unconscious of George Martin's presence.

The old man was irritated. His hearing was becoming very bad when he failed to notice a person's entrance. He started to speak, when something in the boy's occupation caused a spark to kindle in his faded eyes, and, instead, he stood mouse-still and watched.

The young fellow had a check-book open in front of him, in which he was writing industriously, but slowly, very slowly; comparing his work from time to time with a paper which lay on the desk near by.

For perhaps fifteen minutes he kept it up, when suddenly he gave an exclamation of excitement and triumph and quickly filling in a new check, tore the rest into large pieces and dropped them into a waste-basket beside him.

The old man shrank back into his hiding-place, his eyes burning. The young fellow began whistling in a bravado fashion while readjusting his coat and hat before a glass. Then for a long minute he hesitated, tapping his fingers against a polished table. Angrily mumbling to himself, he rushed out of the office and slammed the door.

For a few seconds old Mr. Martin did not move. Then slowly he crept to the basket, his breath coming fast with excitement.

With fingers tremulous, he scooped out the wad of pink check paper, and sinking into the desk chair, pieced one signature together. He fairly chuckled with elation as he got the result, for the name read Charles F. Martin.

Hastily, with a swift, covetous motion, he put all the fragments into his pocket. "I'll show Charlie," he thought maliciously. "He thinks he is so smart. I'll show Charlie how his clerks are robbing him. It took old George to discover it!"

He chuckled again, then abruptly his manner changed and he drooped and shriveled like an airless balloon. His mind had come back to the reason of his visit.

At last, just two hours after his entrance, a clerk came to lead him to Mr. Martin.

"Well," that gentleman exclaimed once the two were alone together, "what is it now?"

"Not money!" the old man almost hissed. "The last time I was here I vowed I would never come again, and I'd starve before I asked you for a penny!"

"Well then," Mr. Martin broke in, "what can I do for you?"

"I don't know how to say it," George Martin gasped, his face paper-white. "First," he felt in his pocket, "I want to tell you something I discovered in your office."

"No," his brother answered. "*First* your affairs."

The old man cleared his throat chokingly. "I—I would give ten years of my life if I didn't have to come to you; but to-day I must make you remember that we are of the same flesh and blood—the same flesh and blood—and the disgrace of one would be the disgrace of the family!"

"What do you mean? Speak out!" The banker's voice was gruff. "But perhaps it would be better if I said once for all, no plea of family for me. It doesn't go. Every man has got to stand for himself. I won't prop anyone up. Now go on! Time is precious."

The old man paused a moment, then sobbed weakly. "It is about my son," he muttered. "About Frank!"

"Well—"

"He—he has stolen!"

"What! the contemptible young rascal, and I suppose you want me to pay for his folly!"

"No—no—he is the—man—who robbed your wife—the day of the tea. He is the thief you have been hunting. He confessed to me last night. Now you can't prosecute him, Charlie, you've got to give him a chance. The jewelry is gone, but you've got to give him a chance!" His voice rose quiveringly intense.

"The crook—to steal from me!" was his brother's answer.

"He didn't know where he was—he didn't know until after he had—taken—the things. Then your daughter spoke to him (he is a florist's assistant, you know), and the sight of her so luxurious, having everything she could wish for, made matters worse. Can't you understand, Charlie? He has always loved luxury and he has never had even a taste of it. I—I wanted to give it to him, but I've been in a bank, earning first sixty, then seventy-five dollars a month for thirty years. I can't seem to do any better. Everyone isn't meant—for success. But the boy wanted fine things—and finally—that day—he took them. It was wrong. It was awful. But can't you understand—" He held out his hands pleadingly.

"So that is the family I am to remember! No! I won't save him. Let him become the jail-bird he is, anyway!" The man's voice was a sneer.

"No! No! No! you can't hound him!" The father's eyes were wild. "He is all I have. My wife is dead, Martha is dead. He is all I have. You must drop the case!" He rose and tottered toward his brother, shaking one finger in the other's face. "If you do take him, I'll have it in all the papers," he threatened, "that he is your nephew, and that if you had helped him, this calamity would never have happened!"

"Oh, no you won't." Charles Martin rose, also. "If you do, I'll see that the case is made so heavy that he'll go to Sing Sing, not to State's!"

He stared at the pitiful old figure in contempt. Nevertheless something in its abject misery made him growl, "I hate cowards, but I'll tell you what I'll do. If the boy shuts up about the whole affair, the relationship and all, when he's caught, I'll have the case dismissed. But I'm going to let them catch him and jail him for a night. Show him how it feels to be behind the bars."

"Haven't you any pity? Think of the disgrace—for me." The old man rose, his eyes glittering. "It can't happen!" he cried. "He sha'n't go to jail! He sha'n't go. I'll stay here until you promise to free him. I will if it's till doomsday!" Trembling, he collapsed into a chair, groaning at intervals, while Charles Martin gazed at him annoyed, but otherwise unmoved.

Suddenly a rap sounded at the door and Fred put his head in. "Dad," he began sullenly, then catching sight of the shabby stranger, he retreated hastily, with a word of apology, until he was stopped by the look on the old man's face. He was gazing at him, his eyes ablaze, his mouth quavering.

"Is that your son?" he demanded of his brother, pointing shakily at the boy.

"Certainly."

Suddenly George Martin laughed, abruptly he turned menacing, maliciously triumphant.

"Then I'll make you wriggle!" he hissed. "It's my turn now. You say my son is a thief. Beneath contempt, because, tempted all his life, he finally stole. Well, your

[CONTINUED ON PAGE 39]

PRIZE PONIES AND THEIR MASTERS

Farm and Fireside's Last Pony Contest

ALMOST every year FARM AND FIRESIDE has held a Pony Contest for its boys and girls. It is not like other contests, for all the hundreds of boys and girls who enter it have the jolliest times of their lives. Every boy and girl who even enters the contest receives a prize, and the reason it differs from all other contests is because all who take part in it are delighted with the prizes, whether they win a pony or not, and are well repaid for the time they give to FARM AND FIRESIDE.

Last Year's Prize-Winners

On this page we want to introduce last year's pony-winners (and their ponies) to all the boy and girl readers of FARM AND FIRESIDE, and to all the grown-up readers, too. Of course, these lucky boys and girls are delighted with their ponies. Just read their letters and see what fun they are having with their new pets. One of the pony-winners wrote to the Pony Man that she drove her pony, Pete, to the next town, eight miles away, in an hour. That was pretty good for a pony, wasn't it, even though he was a prize pony.

Of course, we were delighted to get the letters from the pony-winners, and to know of their pleasure and satisfaction, and to get the photographs of their ponies. The letters that have pleased us most, however, have been those from the hundreds of boys and girls who did not win a pony. Every one of these boys and girls received a reward for the work he or she had done. And they were overjoyed with the beautiful prizes they received. FARM AND FIRESIDE always fully rewards every contestant in its Pony Contests for the time spent—no matter how little time it is.

Object of the Pony Contest

FARM AND FIRESIDE is ambitious. We hope no reader will take exception to that. We want more of the neighbors and friends of our present subscribers to become readers of the paper. We know that FARM AND FIRESIDE is the best and most progressive farm paper; we know you think so; and we want your neighbors (your good neighbors) to know it, too. That's why we have a pony contest. We ask the boys and girls of FARM AND FIRESIDE families to introduce FARM AND FIRESIDE to a few of the neighbors—it's easy, and it's lots of fun. One has only to start in the contest to be sure of a fine prize. In last year's contest, almost every boy and girl who took part, from the winner of Fuzzy down, was surprised to receive a handsomer and better prize than he expected. To begin with, we paid a cash commission for every subscription—but that was only the beginning. Every contestant received another prize, in addition, as reward for the time given to FARM AND FIRESIDE. Every contestant was offered a choice of a prize or a definite money reward. In addition to the ponies and outfits, and the hundreds of watches, fountain-pens, cameras and other prizes that went to contestants, the Pony Man paid nearly two thousand dollars in cash to FARM AND FIRESIDE boys and girls for the time they spent for FARM AND FIRESIDE.

Allen Weber, R. R. 4, New Carlisle, Ohio, and Fuzzy, First-Prize Pony

This Boy Won First Prize

Here are the pictures of Fuzzy and of the bright youngster who won him a few months ago. He certainly has a pretty pony and is very proud of him, as you can see. Allen Weber is his name, and he is one of the proudest boys you ever saw. Here is Allen's letter to the Pony Man:

Allen Weber is About the Proudest Boy You Ever Saw

DEAR PONY MAN:—Once again I am going to tell you how pleased I am with the pony I won in your 1910 pony contest. Only it seems as if I cannot find words to express my gratitude and delight with my pony and cart.

You see, I have used all the words I know to express my pleasure before this, and now this is the greatest happiness I have ever known and those same words don't seem to express enough. But truly those who deal in ponies and others who know about ponies tell me Fuzzy is as good a pony as money can buy, and I always tell them Fuzzy is a pony that money can't buy, as I will not sell him at any price.

And my cart also is one of the prettiest and best on the market. As you see, I could write and write and then I could not tell all the merits of my pony. Just think the very most favorable things you can of my pony and then think he is much better than that, and even then you won't know how splendid he is.

Yours with very much love and gratitude,
ALLEN WEBER.

The second-prize pony was won by a little girl over in New York State. Just about the same number of boys and girls have won ponies in FARM AND FIRESIDE pony contests. In this contest there appeared to be two boys and one girl. Altogether thirty or forty boys and girls have won FARM AND FIRESIDE ponies—but we are now talking about last year's contest, and little Lena Purchell, who won Pete.

DEAR PONY MAN:—I hardly know how to express my thanks to you for your honest, kind heart toward me. I feel that I must owe you something yet for your goodness to me. He is an awful nice gentle little fellow. Everyone that has seen him yet says he is a nice little pony and, oh, he is so gentle we can do anything with him. He don't kick nor bite. I never expected that I would ever win the pony when I started in. Now I am very glad that I did stick to you and the contest. You were so good and honest with me all through I do hope you will be blessed in all your business and I must thank you again a thousand times.

Everybody told me that I would not get anything for sending in subscriptions for the paper; they all tried to discourage me all they could. Now I am glad I stuck right to the post. That's the only way, you wrote me all the time. that I could win and the only way to have anything in this world is to stick right to it, whatever one starts to do. He is an awful nice little traveler. On the road he goes so steady, and he isn't afraid of anything he sees or meets along the road. I have driven him to Margaretville twice to have his picture taken and it's sixteen miles from my home both ways. He will go it in an hour or a little over one way and that's as good as a big horse will do.

LENA M. PURCHELL,
Halcottsville, New York.

Extra Checks

DEAR PONY MAN:—I received your letter yesterday, together with the check, and certainly was surprised, for I could hardly believe my eyes when I saw it. I really don't believe you owed me anything any more. I will always remember FARM AND FIRESIDE to all my friends. It certainly was the most pleasant surprise I have ever experienced and thank you very much for it.

ARTHUR W. ANDREA,
Monticello, Wisconsin.

DEAR PONY MAN:—I received your letter yesterday and was very much surprised to find a check, for I did not think I would get anything for those credits which you gave me. I thank you very much for the one dollar and twenty cents.

Aurora, Indiana. IRENE RUHLMAN.

DEAR PONY MAN:—I received your letter and draft for eight dollars and forty-eight cents, and I think I have been doubly paid for my work. Thanking you for your kindness to me and wishing FARM AND FIRESIDE success in the future, I will bid you good-by until the next pony contest.

HELEN MITCHELL,
Horace, Illinois.

They Were Well Repaid

DEAR PONY MAN:—I was so glad when I received my bracelet I didn't know what to do. Mama and papa were proud of my bracelet. I hope the rest of the children will be as proud as I was. I wish I could have gotten Fuzzy, but I am well pleased with what I got. MARIE EVANS,
Woodcliff, Georgia.

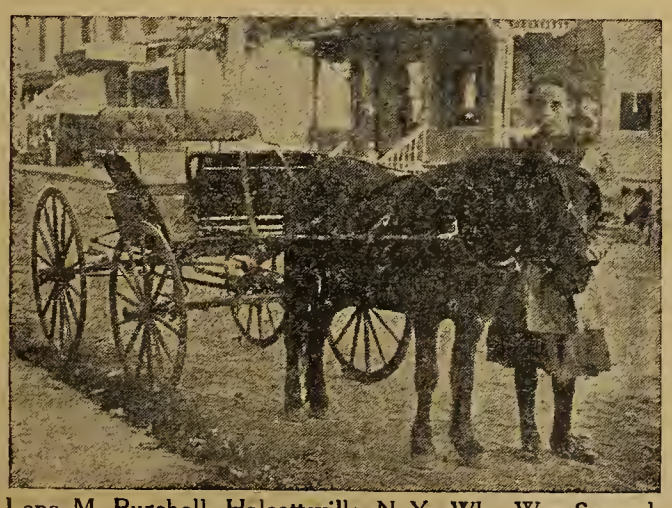
Did Not Expect a Prize

FARM AND FIRESIDE's pony contests are full of surprises—pleasant surprises. Every boy and girl who takes part is rewarded, no matter how little has been done.

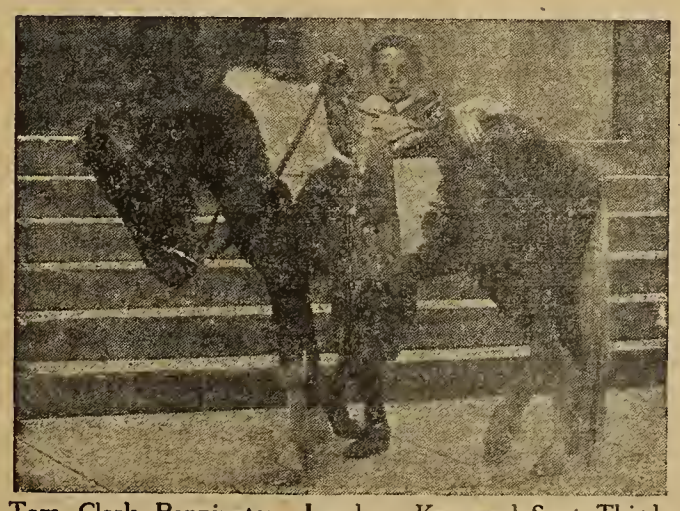
DEAR PONY MAN:—My daughter is away on a trip and did not expect the least premium for only the one name she could send you as a subscriber, but the elegant picture you sent her has come. I shall give it to her, for which please, dear Pony Man, accept both our heartiest thanks and our well wishes, also. MRS. B. BOWEN,
Menomonie, R. R. 8, Wisconsin.

A New Pony Contest

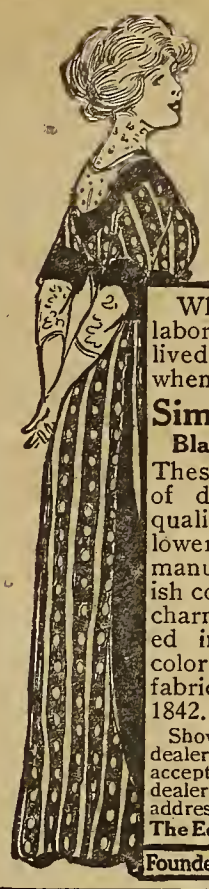
Every FARM AND FIRESIDE boy and girl will be delighted to know that the Pony Man is about to begin a new pony contest, as explained on Page 34 of this paper. We have talked it all over with the Pony Man and we can assure you that it will be the best pony contest FARM AND FIRESIDE has ever held. If you who read this know a boy or girl, advise the youngster to write to the Pony Man and learn all about the Pony Contest.



Lena M. Purchell, Halcottsville, N. Y., Who Won Second-Prize, and Her Prize Pony, Pete



Tom Clark Pennington, London, Ky., and Spot, Third-Prize Pony



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Why spend time-cost and labor-cost in making a short-lived dress of poor material when you can buy

Simpson-Eddystone Black-and-White Prints

These are superior calicoes of durable old-fashioned quality which has never been lowered in the 68 years of its manufacture. These stylish cotton dress-goods have charming new designs printed in absolutely fadeless color on substantially woven fabrics. The standard since 1842. "Worth making up."

Show this advertisement to your dealer when you order, and don't accept substitutes. If not in your dealer's stock write us his name and address. We'll help him supply you.
The Eddystone Mfg. Co., Philad'a

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SHEET MUSIC 15c EACH Postpaid

This Music is the same, in every particular, as you purchase in Music Stores, except the price, which is always lower.

SONGS—Words and Music for Piano or Organ

Garden of Roses	Has Anybody Here Seen Kelly
Rainbow	You Are Ideal of My Dreams
My Pony Boy	All I Ask Of You Is Love
Silver Bell	Call Me Up Some Rainy A'noon
Sweet Bunch Daisies	To End Of World With You
I Love It	I'm Looking for a Dear Old Lady
Winter	Any Little Girl that's Nice Girl
Kiss Me My Honey	By Light of Silvery Moon
Star of the East	I've Got Rings on My Fingers
Senora, "A Gem"	I'd Rather Say Hello
Stop, Stop, Stop	Dublin Rag "Madam Sherry"
Dreaming	Silver Threads Among the Gold
Think It Over Mary	Mesmerizing Mendels'n Tune
Daisies Won't Tell	Put On Your Old Grey Bonnet
Yip-I-Addy-I-Aye	When Autumn leaves are falling
Some Of These Days	Meet Me Tonight in Dreamland
Cubanola Glide	My Love is Greater than World
That Italian Rag	Where River Shannon Flows
Garden of Dreams	Play That Barber Shop Chord

INSTRUMENTAL—Music for Piano or Organ

Meditation by Morrison	Star of Sea Reverie
Kiss of Spring Waltz	Loveland Waltz
Silver Bell, Two Step	Moon Winks, Three Step
Rainbow, Two Step	Maple Leaf, Rag
Dill Pickles Rag	Beautiful Star of Heaven
Turkey in the Straw	Ben Hur Chariot Race
Rag-A-Tag-Rag	Wedding of Winds Waltz
Drifting Leaves, Reverie	College Life, Two Step
Burning of Rome, March	Apple Blossom, Tone Poem
Trip to Niagara, March	Blaze of Glory, March Hit

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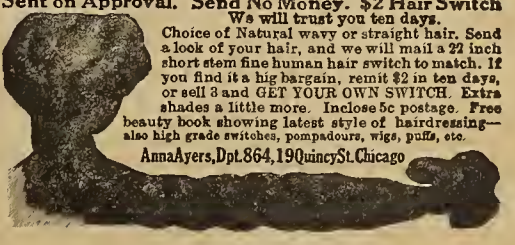

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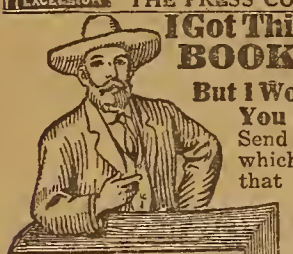

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Beautifying the Farm-Home

By Samuel Armstrong Hamilton

Photographs by Frank Cremer

Rose Arbor Over a Garden Walk

THERE is every reason why the yard and grounds about the farm-home should be beautiful. One reason is that they are located in the country, where it is possible to produce, cheaply, the effects necessary to outdoor beauty, and it can be done by the farmer and his family, with less trouble and expense, than in any location in town or city. The farm-home, situated as it generally is, in the midst of a large yard, is susceptible to the best treatment, which is not the case, frequently, in the homes of dwellers in towns and suburbs, where space is restricted.

In many cases the absence of proper treatment of the surroundings of the farm-home is attributable to lack of knowledge on the part of the owner; he feels that he cannot afford to have his surroundings landscaped by an expert, and he drifts along from year to year, occasionally planting a rose, or ornamental shrub, haphazard. In other cases, there is the feeling that it is wasted effort, as one farmer put it, for: "There is no one but the family to see it." What a reason!

During the season of 1910 I examined the grounds about a large number of farm-homes. Many of these had evidences of some attempts having been made to beautify them, but the efforts were not comprehensive, nor along a worked-out scheme, without which none will be effective. There are farm-homes which, from a horticultural point of view, are almost hopeless—the conditions are so bad, owing to the manner in which the houses are placed, and in these cases little can be done until there has been a rebuilding, but most of those which I examined required but a little intelligent effort, a small amount of money expended, and personal care thereafter, to make ideal country homes.

I found that in past years there was too much low building of farm-homes. They were set so that the top of the cellar wall came barely above the ground, making but one step to the first floor. This was from a mistaken notion that it made it easier for the old folks. The result of such conditions was that there was little if any drainage in the yards, without which even grass will not grow well.

This is the start of the beautifying of the farm-home—*drainage.* When locating a new farm-house, let it stand three feet from the ground to the floor of the first story. If it stands one hundred feet from the road (few farm-houses stand less than this) run a line from a point two feet from the top of the cellar wall to the grade line of the street. If the land is level, this will insure a fall of two feet to the hundred; if the house stands on ground rising from the road, as it should, whenever possible, the drainage will be increased by this rise added to the two feet. This line will be the grade of the center walk.

From this center walk grade on each side to the fence line, which will average fifty feet, and the fall should be not less than two feet at the house line, grading away to nothing at the road. This will, for horticultural purposes, make a perfect grading, and for this reason I give it here. On such a grade the most beautiful grass can be grown. Lawn-grass is not an aquatic, as some people who try to grow it seem to think. A lawn on which the rain-water stands a long time after the rain has ceased, needs draining. If it cannot be done by grading, the next best thing to do is to under-drain it, by putting in lines of porous, square drain-tiles, two feet deep, at distances of sixteen feet apart. The one real and impelling reason why the farm-home should be beautified is that the farmer and his family, in the summer, live mostly outdoors.

Starting with a well-graded or drained yard, let the farmer who intends to undertake a comprehensive campaign for ornamenting his grounds, make a rough sketch of the lot, placing the house, other buildings, trees and any shrubs worth preserving in their relative positions. With this before him, faced in the direction in which the house faces, he can decide what to plant and where to plant it. The direction in which a house faces decides very largely the scheme of planting. If it faces east or southeast, the best locations, it is susceptible of better effects than if faced any other direction. This should be kept in mind in setting new houses, as there often is a choice.

The farm-home should be open to the sun all around. This means that no trees should be planted close enough to it on any but the north side, to cast full shade on it. It is all right to shade a porch, or the grounds close to the house. Set no large-growing trees closer than thirty feet from the house, excepting on the north side.

In the case of a house fronting east, one hundred feet from the road, graded as outlined above, let me outline a planting scheme. The center walk should be not less than three feet wide, and made of the most available materials, screenings, pebbles, gravel, brick or, if you can afford it, or can do the work yourself, cement. Set the stakes for the grade of the walk and plow up the yard, deep, taking up not less than two inches of the subsoil. Put the disk-harrow on it, and cut it as fine as the disk will do it, and then drag it to an even grade, both lengthwise and crosswise. This should be supplemented with hand-raking to make the soil as fine and mellow as sand, when it is ready for the seed. It is rare to see a good farm-lawn, as most of them are either made with sod, or sown with coarse, native grasses which, with the lack of grading and drainage, make them unsightly.

The sowing of lawn-grass seed requires some care in order to get a good "stand." If you are sure of the seed being recleaned; if all the weed-seeds and chaff have been taken from it, it need not be sewed thicker than one quart to three hundred square feet of surface. If it is seed brought in the ordinary way, weighing not more than fourteen pounds to a measured bushel, sow it twice as thick. Sow with the wind, taking in the hand just what can be comfortably held between the thumb and the first and second fingers, with a wide sweep. After all is sowed, give a hard rolling, then water slightly, and when partly dry, re-roll, and keep the surface moist until the green of the new grass shows, when a rain twice a week will be sufficient.

If the yard is a parallelogram as most farm-yards are, run wide borders down the sides, at least six feet in width, in which to plant flowers, shrubs and bush-plants. Do not make the mistake of reserving one for hardy and the other for annual flowers, but use the rear portion of each for the hardy stuff, and the front portion for the annual flowers, which can be changed, if desired, every year, making a different effect in the garden scheme. At the back of the borders plant shrubs, such as althea, amorpha, baccharis, buddleya, berberis, calycanthus, azela mollis, cercis Canada, chionanthus, coluta, cornus, deutzia, hydrangea, snowball, mock-orange and others. In front of these may be planted hardy roses, far enough apart so that other hardy plants may be planted between and among them, and leave a strip a foot wide along the edge for annuals, which may have an edging of coleus or other suitable plants.

There are two ways of preparing these borders. The ordinary way, and the method which insures intensive culture, and a hundred times better results. The ordinary way would be to dig or plow the borders, rake them fine, and do the planting. No amateur who works for the finest results would do it thus. He would remove all the good top soil from the borders, excavate the subsoil to a depth of two feet, and fill in with six inches of broken stone. The excavation would then be filled with a compost made of the top-soil, old sods from the road-side, or soil from a field in which clover or alfalfa has been growing within three years, one part; well-rotted horse manure one part.

When this is thoroughly mixed and allowed to stand, packed tightly together, for a month, mix with it one quart of bone-meal to an estimated bushel of the mixture, and a sprinkling of air-slaked lime. If the soil be heavy limestone loam, then be sure to add one fifth the bulk of the mixture of sharp sand.

This compost will last the border a life-time, with nothing but feeding from the top, after four or five years, and the roots of the shrubs, roses and plants will luxuriate in it, and the blooms will be the finest of their kinds. If this kind of intensive gardening would be followed in the farm gardens, what a great improvement there would be in the appearance of the home surroundings. And there is no place where it can be so successfully followed as on the farm, as there one finds plenty of ground, sufficient help, manure, tools, water and sunshine. All that is needed is knowledge and enthusiasm.

An Attractive Farm-House Porch

In choosing the roses select the hybrids, which bloom over a long season, and can be protected anywhere, south of Canada. For the hardy plants, choose those which give a variety of colored blooms, and so as to have bloom in the borders all the season, from the time the snow goes away, when the bulbs come into blossom, until the hard frosts of late November kill the chrysanthemums. This is not difficult.

Here is a list of thirty kinds so selected that there will be this continuous bloom. Any first-class plantsman will make such selections for you. So will any seedsman, if you desire to grow the plants yourself: April, Adonis, arabis, hepatica, aubretia, helleborus; May, alyssum-saxatile, anemone, aquilegia, astilbe, sanguinaria; June, achillea, baptisia, calimeris, bellis, delphinium; July, althæa, belemcanda, calirhoe, campanula, centaurea; August, anthemis, asclepias, bocconia, clematis Dav, coreopsis; September, cimicifugia, funkia, helianthus, hibiscus, lobelia; October, aconitum, aster, gaillardia, helenium, rudbeckia; November, chrysanthemum, senechio, stokesia, conoclimum, cerastostigma.

[CONCLUDED ON PAGE 29]

Wit and Humor

Quite Fortunate

NEW GIRL (timidly)—"I s'pose you are a fine cook, mum?"

YOUNG MISTRESS—"Bless me, no; I don't know anything about it."

NEW GIRL (relieved)—"Then we'll get along famously, mum. I don't either."—The Housewife.

The Substitute

SMITH has a lovely baby girl,
The stork left her with a flutter,
Smith named her Oleomargarine,
For he hadn't any but her.
—Judge.

Not Easy

"WHAT is the hardest work you do?"

"My hardest work," replied Senator Sorghum, "is trying to look like my photograph and talk like my speeches when I get back to my home town."—Washington Star.

Economy

"THEN this," asked the rejected suitor, "is absolutely final?"

"Quite!" was the calm reply. "Shall I return your letters?"

"Yes, please," answered the young man. "There's some very good material in them I can use."—Life.

Should Have Known

LADY CUSTOMER—"Do you keep coffee in the bean?"

NEW CLERK—"Upstairs, madam; this is the ground floor."—Princeton Tiger.

Well Recommended

TWO negro men came up to the outskirts of a crowd where Senator Bailey was making a campaign speech. After listening to the speech for about ten minutes, one of them turned to his companion, and asked:

"Who am dat man, Sambo?"

"Ah don' know what his name am," Sambo replied, "but he certainly do recommen' hisself mos' highly."—Success.

A Loss of Memory

"UNCLE MOSE," said a drummer, addressing an old colored man seated on a dry-goods box in front of the village store, "they tell me that you remember seeing George Washington. Am I mistaken?"

"No sah," said Uncle Mose. "I useter 'member seein' him, but I done fo'got sence I jined de church."—Everybody's.

Daffy Millinery

HE'D ne'er been knocked so flat—
He viewed her latest hat
Too dazed to try to flatter,
And badly told her that
The famous mad March hare
Must surely be her hatter.
—Terrell Love Holliday.

A Comforting Word

IT WAS at a colored camp-meeting in a Southern town, and a colored evangelist was exhorting his hearers to flee from the wrath to come. "I warn yo'," he thundered, "that, in the language of the Scriptures, there will be 'weeping and wailing and gnashing of teeth.'"

At this point an old colored woman in the back of the tent stood up: "Brother, I have no teeth."

"Sister," returned the evangelist, severely, "teeth will be provided."—Everybody's.

No More at Present

IN THE capacity of a house servant for the Carters in her early days, Aunt Dinah had imbibed a wholesome respect for the Queen's English. Not so her husband, Uncle Ike. The old man had little use for the letter "r," a notable example of which was found in his pronunciation of the word "more."

"Gib me some 'lasses, Dinah," said Uncle Ike one evening at supper.

"Don't say, 'Gib me some 'lasses,' Ike," rebuked the captious Dinah. "You oughter say, 'Gib me some mo-lasses.'"

"Look yere, you," demanded her spouse; "how you spects me to say mo' 'lasses when I done hain't had none yit?"—Lippincott's.

Eager Spectators

DE ROBINS am de first to see
Dat cherry-ripenin' has begun;
Dey 'gins a-settin' in de tree
To watch 'em reddenin' in de sun
Long time befo' de work am done!

An' when I'se makin' cherry-pie,
De chillun all watch me jes' so!
Can't fool dem chillun if I try!
Somehow they allus seem to know
When I'se a-rollin' out de dough!
—Hamilton Pope Galt.

The Milkman's Fib

BOY—"What is a white lie, Pop?"

FATHER—"Most of the milk we buy, my son."—Lippincott's.

Why He Worried

SKINNER—"I wonder why Wheeler feels so bad about the dwindling birth-rate in France."

SHADLER—"He's an exporter of go-carts."—G. T. E.

The Young Husband Speaks

MISS PASSAY—"You have saved my life, young man. How can I repay you? How can I show my gratitude? Are you married?"

YOUNG MAN—"Yes; come and be a cook for us."—H. L. H.

The Dangerous Garment

MRS. JASPER—"Mrs. Turnley has given her hobble skirt away; she was afraid to have it around."

MRS. DAVIS—"Why?"

MRS. JASPER—"It nearly strangled her cook the other day."

MRS. DAVIS—"How?"

MRS. JASPER—"The ignorant girl tried it on upside down, and the small part got 'round her neck."—G. T. E.

"Oh, Lyric Love!"

FIRST CAT—"How sweetly you sing! I never heard anything so entrancing! What was that last song?"

SECOND CAT (sentimentally)—"'If I had nine thousand lives to live, I'd live them all for you.'"—H. L. H.

At the Door

ONE day the front-door bell at our house rang loudly. Aunt Sabriny, colored, who has lived with us for more than three decades and knows all our visitors, hurried off to the door. We heard her in conversation a moment, and then she came back, vouchsafing no explanation.

"Who was it, Aunt Sabriny?" I inquired.

"Aw, jus' some fool pusson lookin' fer the wrong number," said she.—S. W. R.

Beautifying the Farm-Home

[CONTINUED FROM PAGE 28]

These are at their height in the months named, but they overlap the months before and after, which makes the border one mass of bloom the whole season. This continuity of bloom can be applied to the porches and trellises as well, by using the well-known family of clematises. There are varieties which come into bloom in May, and each month thereafter, until the last paniculata is killed by the frost.

I have found the average farm-home weak in climbing-vines of the finer kinds. There are a few honeysuckles used, but mostly of the old-fashioned kind, which is very inferior to the Hall's Halleana, which is an import from Japan, and which is in bloom every month from June to November, if given good soil and plenty of water. For continuous-blooming clematis use the varieties: Henryi, Jackmani, Duchess of Edinburgh, Boskoop Seedling, Mme. Baron Veillard, Mme. Ed. Andre, Ville de Lyon, Virginiana, paniculata and Montana. The clematis should have a deep rich soil, but no manure next to the roots, and should never be set at the south side of a building, where it will be exposed to the glare of the sun all day. It is not bothered by insects. The paniculata sometimes gets covered with anthracnose, for which spray with standard Bordeaux mixture, after the plants have been pruned in the fall. As soon as the frost has killed the vines in the late fall, cut the vines off at the porch floor and fasten the stub so it will not shake in the wind in winter. This will increase the size and quantity of the blooms, as all varieties of clematis bloom on wood of the current season's growth.

If the front walk from the road to the porch is over seventy-five feet in length there should be a break in it. For this purpose there is nothing nicer than an "island bed" filled with bulbs in the spring, bedding plants in the summer and low conifers over winter. In the case of our three-foot walk, make a six-foot bed at a point half-way, running the walk around it both ways. If a bed is not desired, a sun-dial, lily-pond or fish-pond can be used instead.

For the climbing vines, make permanent borders as given above, as they are hardy and permanent. If you desire some shrubbery, set them on either side of the walk, not more than one third the distance from the road to the house, in clumps of three, with the apex of the triangle to the road. These should be low-growing kinds, such as hydrangea paniculata, Norway spruce, hemlock spruce or Austrian pine. Keep a space clear of sod two feet all around them for the first three years, when you should sow shady-place grass to cover the vacancy.

In such a yard as we are considering, there should be not more than four tall-growing trees, and these should be set near, but not close, to the house—none of them directly in front of it. If you desire to grow for posterity, set an American elm to one side, twenty feet in front of the house line and midway between the house and the side line. Back of this opposite the rear house line may be set a willow or maple, and the same scheme may be repeated on the other side, or it may be varied, but there should be at least one tall-growing tree such as the elm, oak, plane and locust, in every farm-yard.

If the borders extend any distance behind the house, let them be continued as far as possible, and in them grow the flowers, such as sweet-peas, gladioli, asters and others, which you will need for the vases, which can be cut and not make the yard appear unsightly, which would be the case did you cut them out of the front borders.

If there is a stock-law in your section, do not have any fences, as they detract from the appearance of the home-grounds. If you desire something to mark the division between the yard and the road, use a low privet-hedge, planted in a trench, the same as the borders, and keep cut to a height of two and a half feet.

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The Story of a Trained Nurse---By Izola Forrester

Illustrated by Wilson C. Dexter

"It's too bad she's leaving." Doctor Newell stirred a powder into a half tumbler of water slowly. His level brows were slightly drawn.

"You always liked her." The head nurse's tone was tinged with a dash of gentle raillery. Newell was the youngest surgeon at St. Clement's Hospital, as well as the best looking. She had known him since his training as intern there. Now he was on the staff, and in spite of his reputation as leading surgeon in Hampton, there was still something about him that reminded her forcibly of the shy, proud Southern lad who had come North for his medical training. More than one of the younger nurses had colored under his steady glance, but not one had ever brought even a look of interest to his eyes until Amy Lovering came. And it troubled the head nurse.

"She isn't at all fitted for a nurse by temperament, Doctor," she went on. "It really has been a trial for the rest of us. She does not like discipline."

The corners of the doctor's firm mouth twitched suspiciously. He knew by experience that Miss Lovering did not like discipline.

"And she argues with the doctors over their orders."

"I know it," laughed Newell outright. "I heard it going for old Barnes the other morning over his fever patient. Barnes sticks to the old school. No water for a fever patient. And she brought a quart bottle of mineral water in, and gave it to the man every time he wanted it. Barnes very nearly had a stroke when he saw the bottle."

"She took the little girl in Number 12 out of bed last night, and walked the floor with her until she fell asleep, and the wound from the operation is not healed yet. It might have injured her badly."

"Not the way Miss Lovering carried her," Newell said quickly. "I saw her."

"Did you speak in her favor with the board?"

"No." His tone was rather low. "I urged that she was not suited to the profession."

"'I want you to leave it all . . . Now do you blame me, Amy?'"

The head nurse turned her head. Standing in the door of the laboratory was Miss Lovering, and she heard the doctor's last words. Her head, with its coquettish cap all little frills and bows, was tilted higher than usual, but there was surely a pained, surprised look in the great dark blue eyes as they met the doctor's glance. She waited until her prescription was filled, and went out without a word. And after her went Newell. Just at the turn of the upper hall, where the sunlight poured down from the solarium skylight, he stopped her.

"Amy, I want to speak to you."

"But I won't listen." She turned quickly, her eyes bright with unshed tears. "You urged that I was not suited to the profession, didn't you? After pretending to help me, and to be a good friend all the time I have been here on probation. And you knew just what it meant to me to pass."

"You told me you did not like the life."

"Neither do I the way you doctors run it. It is one long horror of suffering, and precious little to show for it. Old Barnes had an operation the other day on a poor woman, and went down after it was over, to her husband waiting in the reception-room. And he told him it had been a very successful operation in every way from a surgical standpoint, but the woman was dead. I saw her die. He was lecturing to a lot of interns, and the heart action stopped. He said he didn't know she had heart trouble. And that child, that child that Baldwin operated on without giving an anesthetic at all—I can hear her shrieks yet. Haven't they any judgment? Can't you study the individual a little as well as the science of the thing? Not like it? I love to help alleviate pain and nurse them back to health, I love it, but I hate it all here."

"You are too emotional for the life," answered Newell gently. "I know what you mean. I felt that way, too, when I came here first. But truly, we are not all brutes like old Barnes, or experimental students like Baldwin. Baldwin will always be a student. He can't get past it, and he's been a practising physician for twenty years. You are too sympathetic for the life. There are lots of mistakes one must overlook."

"Yet you cannot overlook my mistake of being too sympathetic for the life," she echoed his words rebelliously. "I want to stay here, and you know I try hard to conform to the rules. Perhaps after a time I will be cold-blooded like the other nurses, too. I must stay, truly, *truly*, Doctor Newell. There isn't any other place for me to go."

He looked at her keenly through his rimless eyeglasses, at the curious little break in her voice.

"Can't you go back home?"

"No. I have no home. My mother died just before I entered here, and my father has married again, married in less than a year, think of it. I can never go back home now. And if you won't let me stay on here, I don't know what I can do."

Newell bit his lip and tried to steady his judgment.

"If you will come to me the day you leave St. Clement's, I think I can get you another position."

"As office assistant to some doctor?" her tone was eager and almost pleading.

"Yes," agreed Newell. "As assistant to some doctor."

Just here the head nurse came quickly, lightly down the hall and paused a moment to lay one hand on Amy's arm.

"Miss Alston is ill and has gone home," she said. "You will take her ward to-night, nurse."

Amy's face brightened as she assented.

"The little girl is there," she told Newell as she left him. "I think I make her forget her pain a little bit."

"You could make any one forget anything, even their head," Newell said laughingly. "I have two patients in Ward 44 and will see you to-night."

It was eight when she went on duty. The ward was very quiet, except for the little impatient moans of the child and the steady buzzing of the electric-bell in Room 17. Amy felt sorry for the woman in 17. She was still young, and surprisingly lovely, even with the pallor of her desperate fight with death still on her face. She had only been in the ward three days. Amy had known of her coming, hearing the nurses talk at table about her. St. Clement's was far down in the business section of the town. Nearly all its patients were poor. Yet this woman was young, refined, delicately nurtured, and her clothing was of the best material. She had been operated on for a blood-clot on the brain the third day. There was still a faint odor of ether about her room when Amy entered it, as if the scent had accompanied her from the operating-room. She had a private nurse, and Amy only paused at the door to ask after her.

"We cannot tell yet," said the nurse pleasantly, in a low voice. "She has been dangerously ill for months. It was feared she would lose her reason. She could not articulate or think coherently. And it is pitiable. She is young and has everything to live for. If she wakens from the ether rational, there is hope of a recovery. Otherwise, she will die."

"To-night?" Amy was startled in spite of her effort to be impersonal. In the soft, shaded light she could see the face on the pillow. The wealth of blond hair had been braided in two long plaits and hung on either side of her shoulders. Her breath came in deep, spasmodic efforts through shut teeth. Her hands were clenched as if still in conscious pain.

"How very lovely she is," she said softly. "Whose patient is she?"

"Doctor Newell's," answered the nurse. "Didn't you know? She is Mrs. Newell."

Amy went her rounds with throbbing pulses and a bewildered feeling of unnatural calm. She soothed the little girl in Room 12, told her some stories and petted her, until she fell contentedly, tranquilly asleep. A new patient was brought in, an old Irish woman, who steadfastly refused to remove her red flannel underwear, although the thermometer registered eighty-nine degrees in the room, and it took all of Amy's gentle diplomacy to get her safely into hospital garb. Down at the end of the hall another woman was sobbing because she had left five children at home, and there was no one to care for them. Amy went to the ward 'phone and called up the head nurse, and in ten minutes an outdoor nurse had been sent out to see that the five children did not get into trouble. Everywhere, at each point, she carried quick, efficacious relief, and unfailing sympathy and understanding. As she came back from the 'phone, she found Newell waiting for her. It was after twelve, and her eyes were brilliant with dark shadows around them.

"I want to speak to you, nurse," he said. "Don't wear yourself out. You look tired. It's about the lady in 17. She is very low."

Amy's head lifted, and she looked him in the eyes fearlessly.

"I will take every care of her, Doctor Newell. Shall I call you if there is a change for the worse—or better?"

"I shall not leave her to-night. She does not rally from the effects of the ether, and I want to be there when she does to see if she will know me."

Amy's hand pressed the white collar at her throat. She tried to speak and could not. The tears, that always came when she was sorely tried, rose to her eyes, and he saw them. Before she could stop him or guess his intention, he caught her two wrists and held them firmly.

"Amy, Amy, don't. You must not let these cases affect you. Listen to me, dear."

"Will you let me go?" she whispered, trying to draw her wrists away. Somebody was coming rapidly along the passage. He bent his head and kissed her fingers tenderly, reverently. And she turned to face the private nurse from 17.

"Will you come at once, doctor?" she exclaimed. "Mrs. Newell is conscious and spoke your name."

After they had left her, Amy stood, her hands covering her face. She loved him, had loved him for months, thinking him unmarried, and now his wife was lying there, calling for him, calling for him from the very valley of the shadow of death, while his kiss still burned on her cool finger-tips. It was like some terrible, shocking nightmare. She turned with a quick, desperate idea of calling the head nurse and leaving, getting another nurse to take her place, anything to let her escape from the chance of meeting him again.

As she hurried along the corridor to the 'phone, she heard the little girl calling her softly.

"Nursie, nursie, come here, *please*."

"Yes, dear." She stepped to the door quickly. "What is it?"

"Can you see the pretty light from the window?" she tried to raise herself on one elbow, but fell weakly back. "The glow made my room all red a minute ago."

Amy went to the window and lifted the curtain. There was a court-yard around the hospital and a stretch of green sward near the outer railing. The next building was on fire. From the third story window where she stood she could see the smoke pouring from the upper windows and see the flames darting out here and there at the lower casings, as they ate their way through. Yet her tone was calm and soothing as she lowered the curtain again.

"It is pretty," she said. "I think there is a searchlight out toward the river, dear. Just go to sleep and forget about it. I will come in again in a few minutes."

There was not an instant to lose. Walking softly, quickly down the hall so as not to alarm any one, she reached the telephone and called up the office. Telling what she had seen, she asked that the other nurses be roused at once and sent to their posts throughout the building, that somebody be despatched to ring the alarm, and it must be a still alarm. She met the nurses calmly as they hurried through the halls, directing, instructing each what to do, to close the windows noiselessly, to lower all shades, to quiet any suspicions, above all to stand ready for any emergency.

"Oh, Miss Lovering, what if we had a panic," exclaimed the head nurse, half clinging to her arm. "You have never been through one. I was nearly suffocated in a fire rush at the old city hospital."

"Be quiet. You only alarm yourself," said Amy gently. "I suppose it is awful, but we must think of the poor patients first. If we are ordered to leave the building, I think we can do so safely. Rouse the interns and servants, and have them ready with stretchers at the north hallway, on each floor, and ambulances down on the side street, and you had better send up to the other hospitals for extra ambulances, for they will have to take our patients. Let the nurses go with the worst cases."

And the head nurse obeyed orders. In every ward, at every staircase stood silent watchers. At every street door ambulances were lined up, waiting, while the engines drew up outside, without the usual mad clamor and disturbance, and wrestled with the fire. And quietly, unknowingly, the patients slept, unconscious of the danger or excitement.

It was after two before the last hose-cart went down the street, and nearly half an hour later before the wards were cleared. The head nurse found Amy kneeling beside the bed of the little girl in Number 12, her face hidden in her hands. The older woman embraced her and kissed the waves of soft, dark hair.

"My dear, you have proved yourself a veritable heroine this night," she said. "I ask your pardon for even suggesting that you are unfitted for the profession of a nurse. Doctor Newell wants to speak to you."

"I won't, I cannot see him," Amy faltered.

"But he has good news. Mrs. Newell is conscious and is quite rational. She will recover. She even heard the sound of the hose playing on the fire and asked about it, and said she was not afraid."

"Was her—husband with her all the time?" Amy asked the question with difficulty.

"Her husband? Why, he is dead, dear. She is a widow, with several little children, and Doctor Newell, her brother-in-law, has had full charge of her since the accident. She was injured in a motor accident some time ago, and it was feared would lose her reason. The doctor is waiting to see you before he goes."

Amy rose unsteadily and went out into the hall.

"I could not leave without seeing you," Newell told her. "I want you to know the truth. I did speak against retaining you here as a staff nurse, because I want you to leave it all and be my wife. Now, do you blame me, Amy?"

She flushed shyly and lifted tired, happy eyes to his.

"No, no, not one single bit," she said softly. "Not since I found out that a doctor cannot attend his own wife."

Practical Clothes for Every Occasion

Designs by Miss Gould

No. 1632—Child's Yoke Dress

Pattern cut for 6 months, 1, 2 and 4 year sizes. Quantity of material required for medium size, or one year, three and three eighths yards of twenty-seven-inch material, with three eighths of a yard of inserted tucking for the square yoke

IT IS just ten days now before the spring catalogue of WOMAN'S HOME COMPANION patterns will be ready for delivery. Every woman reader of FARM AND FIRESIDE will need to consult this big catalogue, for it is full of just such things as the busy housewife and mother needs to know about her clothes. Send your order now, inclosing two two-cent stamps for this spring catalogue of WOMAN'S HOME COMPANION patterns so that it will reach you promptly. It may be ordered from our three pattern depots. Choose the one which is the nearest to your home so as to facilitate quick and prompt delivery.

No. 1442

THIS is the time of year when everyone's wardrobe needs replenishing. It is not quite time for the real spring and summer clothes, but the winter ones are beginning to be quite shabby, and then there are a few days in early spring when heavy clothes are uncomfortable. Illustrated on this page are a great many designs which will be very helpful in remodeling half-worn gowns and in making new costumes when an entirely new wardrobe is not necessary or desirable. There is a very smart suit and some street dresses, as well as three dainty wrappers, two shirt-waists and two designs for children. In fact, there are designs suitable for mother, grown-up daughter and little sister.

No. 1719—Tucked Tailored Skirt-Waist

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, four yards of twenty-four-inch material or two and one half yards of thirty-six-inch material. The new madras showing dots or stripes in color is stylish material for this shirt-waist. The silk tie matches the dot or stripe

No. 1442—Double-Breasted Coat

Pattern cut for 4, 6, 8 and 10 year sizes. Quantity of material required for medium size, or 6 years, three and three eighths yards of thirty-six-inch material, or two and one eighth yards of forty-four-inch material. Dark blue serge or cheviot are the most serviceable materials for children's coats, and braid is a good trimming for a coat of this style

Three excellent wrapper designs are shown on this page; one for a young girl and the other two for women. The prettiest ones show flower patterns in the natural flower colors. The backgrounds, however, are usually dark in color which makes the material more practical than if it were in a light tone. Embroidery or rather coarse lace would be remarkably pretty trimmings for patterns Nos. 1712 and 1701.

No. 1729—Short Box Coat

Pattern cut for 32, 34, 36 and 38 inch bust. Material required for 36 inch bust, three yards of thirty-six-inch material, with one half yard of contrasting material for trimming

No. 1730—Gored Skirt With Foot Band

Cut for 22, 24, 26 and 28 inch waist. Material for 26 inch waist, four and one eighth yards of thirty-six-inch material, with one yard of thirty-six-inch material for foot band

No. 1722—Blouse With Shawl Collar

Cut for 32, 34, 36, 38 and 40 inch bust. Material required for 36 inch bust, two and one eighth yards of thirty-six-inch material, with one yard of contrasting material thirty-six inches wide for trimming and one and one fourth yards of tucking for guimpe

No. 1723—Skirt With Band-Trimmed Tunic

Cut for 22, 24, 26, 28 and 30 inch waist. Material required for 26 inch waist, eight and one half yards of thirty-six-inch material, with one yard of contrasting material thirty-six inches wide for bands

THE suit design illustrated on this page in patterns Nos. 1729 and 1730 is an especially smart one. It is a very simple one, too, for the amateur dressmaker to use, for the skirt is easy to put together and the coat, because it is only semi-fitted, will not be hard to make even for the woman who has never made a coat before. A new feature of this coat is the narrow collar with wide revers and the two buttons, which are on the left side, making the coat fasten like a man's overcoat. The design in patterns Nos. 1722 and 1723 is a very good-looking one for wear during the early spring weeks. It is an exceptionally easy costume to make, as indeed are all the other patterns illustrated on this page.

No. 1620—Plain Tailored Shirt-Waist

Cut for 34, 36, 38, 40, 42 and 44inch bust measures. Quantity of material required for medium size, or 38 inch bust, four and one eighth yards of twenty-four-inch material, or two and one half yards of thirty-six-inch material. This pattern provides for the linen collar which would be pretty if embroidered

No. 1712—Misses' Empire Wrapper

Pattern cut for 12, 14 and 16 year sizes. Quantity of material required for medium size, or 14 years, four and one half yards of twenty-four-inch material, or three yards of thirty-six-inch material. This dainty Empire wrapper is made with the sleeves cut in one with the short-waisted body portion. There are plaits on the shoulders back and front, and the skirt is joined to the waist by a belt

Both the plain and tucked shirt-waist will be fashionable this season and the models here illustrated are good designs. Pattern No. 1620 would be stylish if made of plain gingham or chambray, while pattern No. 1790 which is a little more elaborate would be pretty made of some of the thinner materials, such as the popular cross-bar dimity or batiste.

No. 1713—Misses' Double-Breasted Shirt-Waist

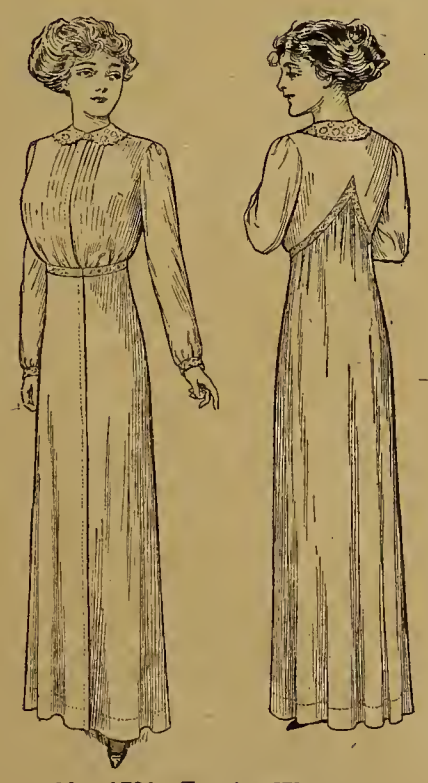
Pattern cut for 12, 14 and 16 year sizes

No. 1714—Misses' Gored Skirt Buttoned at Side

Pattern cut for 12, 14 and 16 year sizes

A PATTERN can be supplied at the very low price of ten cents for every design illustrated on this page and in the big spring catalogue of WOMAN'S HOME COMPANION patterns, which will be issued March 20th. WOMAN'S HOME COMPANION patterns are the kind for every busy housewife and mother, for they are simple to use, and are perfectly graded.

No. 1712



No. 1701—Empire Wrapper

Pattern cut for 32, 34, 36, 38 and 40 inch bust. Quantity of material required for medium size, or 36 inch bust, ten and one half yards of twenty-four-inch material, or six yards of thirty-six-inch material, with one half yard of contrasting material for the trimming,

No. 1456—Wrapper With Princesse Back

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 38 inch bust, eight and three fourths yards of thirty-six-inch material, or seven and one fourth yards of forty-four-inch material. Use percale or cotton crepe

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GIVEN-AWAY 18

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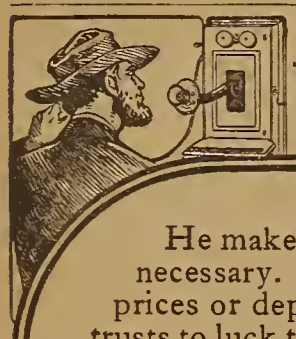

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SUNDAY READING

True Happiness

By L. D. Stearns

IT's a beautiful world, friend. Why spoil it by grumbling? Why throw away your birthright of joy and gladness and deep abiding peace in a mad rush after gain? Don't forget that the best things lie very close at hand.

I heard yesterday of a poor lad, paralyzed the entire length of one side, his right hand and arm useless, yet he was making good at odd jobs in a large concern, singing and whistling the whole day through, and when one of the working force said to him one day, "You're always happy, John. How is it?" he turned, with his ready smile fading a bit. "I have to be, don't you know, Miss F——," he replied. "I have to sing and whistle *to forget!*"

Friend, it helps to be cheerful. It helps to be brave. We're all reaching out for happiness, but we think too much about it. We're too closely occupied with the *I* of it, to get the most out of life.

What though you *did* fail in your undertaking? Begin again. What though you *did* meet with a loss? Thank God it left you with health and strength. What if life hasn't turned out just as you planned it. From one end of the earth to the other humanity echoes the same cry.

Up in the heavens God's stars are still shining, telling their wonderful tale of a mighty power which holds them, every one, in their places. Over the broad world His soft breezes wave, whispering softly a tale of love. In the song of every bird, in the budding of every tree, in the fleeting, wondering smile of every little child, there's something that speaks of God.

Let's be true, friend. *Let's be true!* True to ourself, to life, to God. It will mean the giving of our best every day, when perhaps we're tempted to give but half best, or even to shirk utterly, and give next to nothing. It will mean making our bodies a fit dwelling-place for the souls God put within them. It will mean self-denial of those things that hurt. It will mean accepting responsibility—shouldering blame in our work, when the blame is ours; not trying to make excuses nor throwing them on another. It will mean being patient and brave and kind, whether the burden of the day be heavy or light—reaching out a helping hand to the one who is close beside and almost ready to fall. It will mean the putting aside of your own plans, now and then, cheerfully—making home happy and cheerful and bright. It will mean, friend, giving out to the world a bit of that same God-spirit that was fashioned into your soul when you were sent into this old earth fresh from the heart of love and of God.

It's not all in the reading of your Bible, the falling on your knees to pray, the going to church on the Sabbath. It's in *living* and in *loving*, in reaching out helpful hands toward life. Thus, and thus only, shall happiness that is real and abiding and true settle down into your heart and your life, when you have ceased *seeking* and begin to *give*.

Do All Things in Love

By Orin Edson Crooker

LOVE, in the Scriptural sense, does not pertain to the affairs of the heart or the sentimental side of life. It refers primarily to sacrifice and service in behalf of others. "Greater love hath no man than this," said Jesus, "that he lay down his life for his friend."

In Victor Hugo's masterpiece, "Les Miserables," there is a little incident which well illustrates this meaning of the word. Jean Valjean, when a galley-slave, had been noted for his almost superhuman strength. For years after his escape from the galley-ship he had lived as the respected Monsieur Madeline in a little village of which he had been chosen mayor. One day he came upon a party of peasants who were seeking to rescue the parish priest, Father Fauchelevent, from being crushed to death under a heavily laden wagon. After watching their fruitless efforts for a time, he remarked to the police inspector, Javert, who stood near, that it might be possible for someone to crawl under the cart and raise it upon one's back to enable the unfortunate man to be drawn from under the wheel. The inspector, who suspected that Monsieur Madeline was the escaped convict, Jean Valjean, and who was only waiting for some proof of the fact before sending him back to the galley-ship, replied insinuatingly, "I never knew but one man strong enough to raise such a load upon his back, and he was a galley-slave by the name of Jean Valjean." Yet in face of this, Monsieur Madeline, with everything to lose and nothing to gain, forgot that his act would send him back to the prison-ship. He went down on his knees in the mud under the cart and with one mighty effort raised the great load upon his back and Father Fauchelevent was saved. That was love! That was sacrifice of self. That was service in behalf of others without thought of what it might bring to oneself.

One does not need, however, to go to such extreme ends as this in order to follow the Scriptural command, "Do all things in love." Not a day passes but one is called upon to demonstrate one's love for others through some act of service or sacrifice. It may be in the home; it may be in the school; it may be in the shop, the factory or the store. Life would be hard indeed did not people help to lighten one another's load by giving a kindly lift now and then to the burdens which they see them carrying.

Someone has said that "Sympathy," "Kindness," "Sacrifice" and "Service" are the oils which lubricate the great machine which we call society and which make its wheels turn easier. It is a good thing to keep a generous quantity of each on hand and to use them generously. Life holds lots more of joy and contentment if the "wheels" turn smoothly and without friction.

The Strength of Faith

By C. O. Edwards

ISAIAH, the prophet, says, "In confidence shall be your strength." Here is the secret, if secret it be, of many a person's success. Confidence lends strength to the powers we already possess. How often have we seen some one, splendidly endowed for a particular work, fail for no other reason than that he lacked confidence in himself. When put to the actual test he disappointed the hopes and expectations of his friends.

On the other hand, we have read of the drummer boy, who, when asked by Napoleon during the battle of Marengo to sound a retreat, replied that he had never been taught to beat a retreat, but that he could sound a charge that would make even the dead fall into line. The record of history shows that the boy's confidence in his own powers was not over-estimated.

In very much this same way our confidence or faith in God rewards us with a spiritual strength that we can little afford to be without. We know not what each day will bring to us. Oftentimes we are called upon suddenly to face unexpected situations. Crises in life frequently come without warning. Our own powers seldom prove sufficient for such times when they come. Then it is that we must draw upon the reservoirs of strength that exist for us in our companionship with God and Christ. Here faith points the way. Trust in God quiets the fears of the heart. Confidence takes the place of doubt. We rest content that strength from on high will be added to our own if the burden becomes too great.

When we are alone we have our thoughts to watch; in family, our tempers; and in society, our tongues.—Hannah Moore.

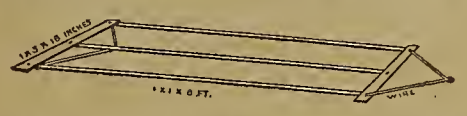
I know it does seem as if you couldn't help thinking about troubles sometimes, and it's quite a chore to keep bright; but then it seems so much more cheery not to be fretted over things you can't help, and it is such a sight pleasanter for everybody else!—Elizabeth Stuart Phelps.

The Housewife's Club

EDITOR'S NOTE—Monthly we give prizes of $2.00 for the two best descriptions (with rough sketch) of original home-made household conveniences or labor-saving devices, and $1.00 for the third best or any that can be used. ¶ We also give 25 cents each for helpful kitchen hints and suggestions, also good tested recipes that can be used. We would suggest that you do not send more than two recipes, and not more than five kitchen hints each month, because we receive so many that space will not allow us to print them all, in spite of the fact that they are reliable and practical. ¶ All copy must be in by the third of April, and must be written in ink, on one side of the paper. Manuscripts should contain not more than 250 words. We would suggest that contributors retain duplicate copy, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address "The Housewife's Club," care of Farm and Fireside, Springfield, Ohio

A Hanging Clothes-Horse

Take three pieces of fairly tough lumber one inch square and eight feet long, and two pieces one inch by three inches and eighteen inches long for the ends. Bore three holes and attach wire as shown in sketch. With a clothes-line,



hang it to two pulleys in ceiling, making the ropes fast to a cleat on the wall, at a convenient height. This is so much handier than an ordinary clothes-horse, at least I find it so, as it can be pulled up out of the way, and the clothes placed on it always dry so quickly. MRS. A. W. H., British Columbia.

When Hemming Napkins

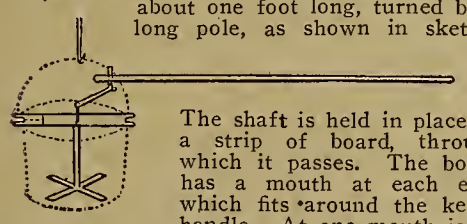
Everyone knows how hard it is to turn a very narrow, even hem on table-napkins. Suppose you try my plan next time. Put the hemmer attachment on your sewing-machine, and without using any thread run the napkins through the hemmer. They will be creased very narrow, all ready for hand sewing. MRS. L. M. K., Ohio.

To Preserve Eggs

This is the most satisfactory method of preserving eggs that I have ever tried. Have ready a kettle of boiling water, put the eggs in a wire basket and dip them in, allowing them to remain in the water until you count ten very fast. This cooks the white inner skin and makes it air-tight, so that evaporation cannot take place. The eggs will keep perfectly for many months. C. R., Nebraska.

A Stirrer for Apple-Butter

This little invention of mine will no doubt be of interest to others. It is made by a wooden shaft about two inches thick and about three inches higher than the kettle, with a crank about one foot long, turned by a long pole, as shown in sketch.



The shaft is held in place by a strip of board, through which it passes. The board has a mouth at each end, which fits around the kettle handle. At one mouth is an iron slide and a set screw to hold the board in place. It is very little trouble to make apple-butter with this stirrer, which is so easy to make. C. R. B., Pennsylvania.

To Remove Varnish

I had some furniture to fix over and did not know how to get the varnish off without scraping it, until a friend told me this way. Buy five cents' worth of sal soda, make a thick paste of it and spread it over the varnish. Let it stay on for an hour or so, then scrape it off with an old knife. The varnish will come off very easily. V. R. LEC., Mississippi.

For a Cut

Wash the cut with salt-water. Dissolve one tablespoonful of salt to a pint of water. A doctor told me that it was one of the best antiseptics one can use. It smarts for a few seconds, and then entirely relieves the pain. M. B., Wisconsin.

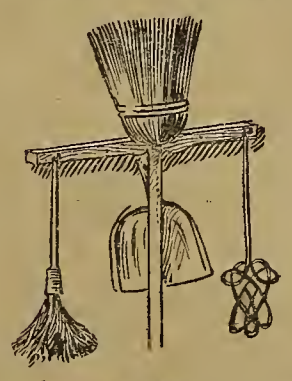
Coffee-Cake

Two eggs, one half cupful of sugar, one half cupful of molasses, one scant half cupful of butter, one half cupful of strong cold coffee, one cupful of raisins, one and three fourths cupfuls of flour, one half teaspoonful of cinnamon and one fourth of a teaspoonful of cloves and one level teaspoonful of soda. Then bake. MRS. M. J. H., New York.

Convenient Combination Holder

The accompanying sketch shows a holder that will provide a place for the broom, duster, dust-pan and carpet-beater, and keep them where they may be found when needed.

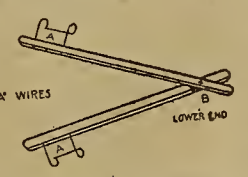
The holder is made from a board one inch thick, about three inches wide and fourteen inches long. The ends are cut down so as to make them one inch square, leaving the center full width of the board with a notch cut in it to receive the broom-handle. Two



shoulder hooks are screwed into the outside edge of the wood, one at each end, on which to hang the duster and carpet-beater. A plate-hook turned into the under side of the wood and behind the broom-handle makes a place for hanging the dust-pan. The wood is fastened to the wall with two nails or wood screws. MRS. S. J. H. Wisconsin.

Lifter for Pies

Here is a convenient device for placing pies in or taking them out of the oven. Take two pieces of wood eighteen inches long, three fourths of an inch wide and one half inch thick. On the one-half-inch side make two small holes through each piece, one hole being one half inch, and the other five inches from the end. Now bend two pieces of stiff galvanized wire into curved shapes like the illustration and place the ends into these small holes, having them fit tightly. When this is finished lay one piece of wood upon the other and fasten together at the lower end with a small screw or bolt, being careful not to fasten too tightly, as the pieces must open and close. To lift a pie, place the wires under the rim of the pie-tin, then draw up tight. MRS. S. L., Michigan.

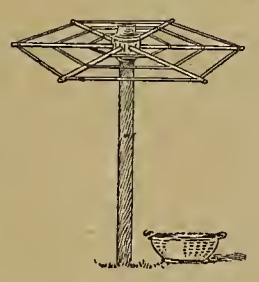


New Way to Serve Corn

When one tires of the plain article, it makes an agreeable change served as follows: To one can of corn add three well-beaten eggs, one pint of milk, salt, pepper and a little butter. Stir together well, put in baking-dish and bake slowly for one hour. This is excellent. Green corn is especially fine served in the same way. MRS. E. W. P., Iowa.

Handy Clothes-Line

A discarded wagon-hub is the foundation for this clothes-line. In the ground drive a strong post, which comes as high as an ordinary line. On the top place the old wagon-hub so that it can revolve. Put six light poles about six feet long in the hubs to form spokes, and upon these stretch three rounds of clothes-line, and your line is ready. It is not necessary to move the basket or shift your position while hanging or taking down the clothes. This is a splendid way to utilize an old wagon-hub—and I am very well pleased with my revolving and convenient clothes-line. MRS. E. L., Wyoming.



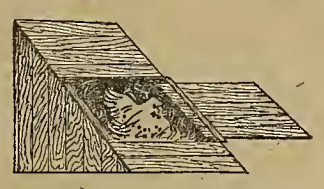
Southern Cinnamon-Cake

One cupful of sugar, butter the size of an egg, one cupful of milk, one egg, two cupfuls of flour, one and one half teaspoonfuls of baking-powder, a pinch of salt and a little nutmeg.

Beat the butter to a cream, gradually add the sugar, then add the egg unbeaten. Beat all together thoroughly, add the milk and flour, again beat hard for five minutes; then add the baking-powder, salt and nutmeg. Put into a greased pan, sprinkle with sugar and cinnamon before putting in the oven. This is delicious. MRS. R. H. H., Montana.

Nest for Setting-Hen

I find that the most satisfactory way to handle setting-hens is to put them in a house to themselves. I use little houses (like sketch given) having three sides, no bottom and a slide door. Stand house against wall, fix a nice nest



inside on the ground, put eggs in it and at night place a setting-hen on the nest. Close slide door and do not disturb her for a day or so. Then let her out in the room to get food and water. She will soon grow to know her nest. I have twelve nests in one small room. These nests will last for years if they are well cared for, and are very easy to handle when they need scalding or white-washing. J. G. H., South Carolina.

Embroidery Hints

To prevent embroidery-floss from tangling, cut the skein at each end, separate into three strands and braid loosely. This is also a convenient way to keep it.

In eyelet embroidery, to fasten the thread when the eyelet is finished, leave the last two stitches loose. Pass your needle back through these stitches, then draw them tight and when the thread is cut you will have a secure fastening and an invisible one. This hint has helped me. G. M. K., Michigan.

Devil's-Food Cake

Mix two cupfuls of brown sugar with one half cupful of butter and three eggs well beaten, one cupful of fresh buttermilk, in which a teaspoonful of soda has been dissolved; then stir in two and one fourth cupfuls of flour and one fourth of a block of unsweetened chocolate which has been dissolved in half a cupful of boiling water, (this generally takes about ten or fifteen minutes). Bake in layers or loaf. The following caramel-filling is splendid: Boil one and one half cupfuls of brown sugar with three fourths of a cupful of water until thick. Add a teaspoonful of butter and three tablespoonfuls of cream. Let boil up, then set off and beat while cooling. MRS. D. R., Missouri.

Hint Worth Knowing

I read in a magazine a short time ago a "hint" in which it said to cut a corner off the cereal boxes, instead of opening the entire top. Trying it, I found it worked beautifully the first two mornings, but on the third morning I noticed a tiny web hanging from the box as I was about to return it to the cupboard. I tore off the top and found a complete network of webs around the inside of the box. Ignorance might have been bliss, but not healthful nor appetizing, so now when I buy cereals I empty the contents of the boxes into glass fruit-jars and screw the tops on well. Packages showing any signs of habitation are returned to the grocer from whence they came. MRS. M. H. B., New York.

To Grow Lettuce

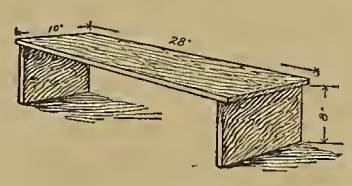
By proper management and care, lettuce may be made a very valuable garden product. For years past I have succeeded in having a continuous supply through spring, summer and autumn, growing it in the open garden. To secure this result I sow a bed of seed as soon as the ground can be put in proper condition at the opening of springtime. Three or four weeks later, as weather conditions permit, I sow another bed. Thereafter, at like intervals, I continue to repeat the planting of the seed until late in September. Constant use of this esculent plant is sure to prove a great promoter of health. R. D., Indiana.

To Can Cabbage

Chop cabbage fine, season with salt, pepper, vinegar and add a little sugar. Cook about fifteen minutes. If the cabbage is sealed in glass cans with good rubbers, it will keep one year. MRS. M. N., Illinois.

For the Invalid

If it is necessary to serve the invalid's meals in bed, this little bench will prove useful for holding the tray of food. It sets over the body and allows the patient perfect



freedom. Food placed upon it is in no danger of upsetting, as the bench is very firm. MRS. M. H. B., New York.

A Poultry Hint

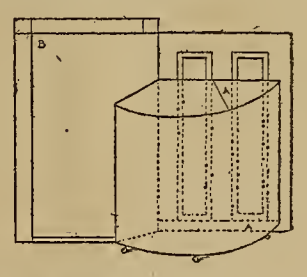
To make hens lay more eggs put shelled corn in a vessel and cover with warm or hot water, and let stand ten or twelve hours before feeding. The corn I feed the chickens in the morning I soak the evening before, and that which I feed in the evening I soak in the morning. I find it a great help. MRS. L. Z. H., Ohio.

Oyster-Pie

If the oysters are fresh, remove from shell and wash. Take the liquid they have come in, place over slow fire and bring to boil. Flavor with butter the size of a walnut, salt, pepper and paprika to taste. Thicken flour with a little milk or water and add to the oyster-juice until of good consistency. Place a cup in the center of a baking-dish, place the oysters around it, and pour liquid over them. Cover same as for chicken-pie with a good pie-crust and cook until brown. If oysters are canned, wash well, strain liquid and thicken as above. The rest of recipe is the same. I have used this for years. MRS. H. A. F., New York.

A Model Flour-Bin

As so many of the flour-bins are traps to catch the hands or fingers, I had mine made in a way to avoid such unnecessary accidents and at the same time have the bin conveniently located. It is built in the form of a quarter circle, the angles and bottom of one-inch pine or white



wood, and the quarter circle of good quality galvanized iron. In the center is a partition and in one compartment I have wheat-flour and in the other corn-meal.

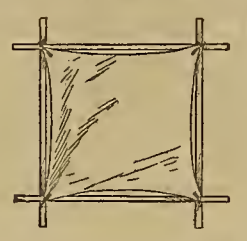
The bin is fitted with casters, and the upper edge of the galvanized circle is well rimmed. It is attached to the back of the cupboard door, the casters resting on the floor, as shown in sketch. The door is opened by means of a drawer pull, and the bin rolls out. When the door is closed it has just the appearance of an ordinary cupboard. M. B., New York.

Peppermint-Creams

Two cupfuls of granulated sugar, two thirds of a cupful of boiling water. When boiling rapidly, put in one eighth of a teaspoonful of cream of tartar. When the syrup strings take from fire and add one teaspoonful of peppermint and beat until it begins to grain. Drop quickly on waxed or buttered paper. J. H. C., Connecticut.

Milk-Strainer

Take a piece of white flannel about six inches square, hem all around and work a small buttonhole in each corner. Make a frame of four small strips of wood; tack together with small nails, allowing the nails to project a little; then put the cloth over the frame with the buttonholes over the heads of the nails. This makes it easily removed for washing.



There is quite a difference in the milk when strained in this way than when strained through a common strainer. MRS. J. L. R., Ohio.

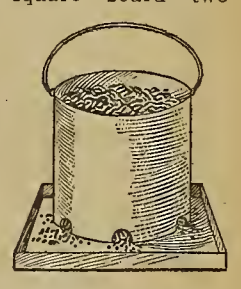
Banana Cake

Two cupfuls of granulated sugar and one half cupful of butter creamed together, one cupful of sweet milk, three cupfuls of flour sifted with two teaspoonfuls of baking-powder. Beat thoroughly and add one egg and two yolks well beaten.

Filling: Beat the whites of two eggs, take one and one half cupfuls of sugar, three fourths of a cupful of water and let boil until it spins a fine thread, pour it into the whites, stirring well. Then beat all until cool. Spread between layers with sliced bananas. MRS. R. R., Indiana.

Feeding-Pail for Chickens

This handy chicken-feeder can be made from a cottolene pail. With a can-opener cut in pail four holes one inch high, as shown in sketch. Nail the pail to a square board two inches wider than the pail. Nail a piece of lath on each side of the board, so that it will project one half inch above the top of the board. You will then have a chicken-feeder which answers the purpose as well as a high-priced patent one. MRS. C. W. K., California.

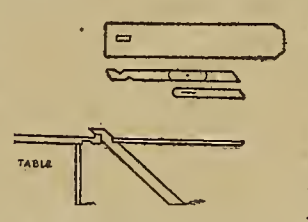


Sweet Pickles

Wash pickles and place in crock. Throw in plenty of salt and over all pour boiling water. Let stand overnight and in the morning remove pickles from brine and dry with a clean towel. Put vinegar on fire and sweeten to taste. Put in spices, either in little sacks or loose. Let boil for about one half to one hour, according to strength of spices. Drop in pickles, let boil up twice, then remove from fire. Put pickles in glass jars and pour the vinegar over them while hot and seal. Be careful not to puncture the pickles or they will shrivel up and therefore get soft. M. B., Pennsylvania.

Ironing-Board

The board is fifteen inches wide by five feet long with a mortise one by four inches, six inches from the end. Take another one-by-four-inch hard-wood board three feet long and another one two feet long and cut as shown in the illustration. These two pieces are put together with a bolt and adjusted to the height of the table—the slot allowing the bolt to move in the desired place. Fit the foot-piece into the mortise of the ironing-board and clinch on the end or side of the table, which acts just like a pair of tongs. After padding the board it is then ready for use. MRS. J. E. E., Pennsylvania.

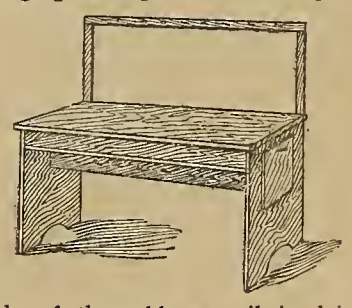


To Pack Ham for Summer Use

Cut, trim and put in a jar two layers at a time, using a wooden potato-masher to pack each layer so that it will be air-tight. When the jar is nearly full, melt lard and cover about an inch deep on top. Do not have the lard too hot or it will warm the meat. As meat is used be careful to see that the lard is spread back over the remaining layers so that it will not spoil. MRS. R. D. C., Pennsylvania.

Kitchen Table

This table may be made out of inch boards, thirty-four inches high, six feet long and twenty inches wide. Underneath the top is a shelf for pot-lids, cake-tins, etc., and under this is a board four inches wide for hanging saucepans and dish-pans. At



the side of the table a nail is driven on which to hang the mixing-board. The back of the table is eighteen inches high, and at the top there are hooks for hanging spoons, cups and other cooking-utensils. The table is covered with oil-cloth. If desired a curtain can be run across the front to keep out dust. MRS. A. M., Michigan.

Get This Prize Pony

Without Cost

For Our Boys and Girls

Our Biggest and Best Pony Contest

Read How To Win "Beauty"

Good news to you all. Don't you want to win "Beauty?" Well, you can win him and his cart and harness without spending a penny. "Beauty" is to be given away in a little while to some boy or girl who will do Farm and Fireside a favor. **Just think, he won't cost a single cent!** Do you want to be the lucky boy or girl to win him? I guess you would be the happiest boy or girl in all the land, and the proudest, too. "Beauty" more than lives up to his name. He is the most beautiful pony you ever saw. "Beauty" has soft, long, brown hair, with a lovely, fluffy mane He is just 40 inches high and weighs 250 pounds. He is as gentle and lovable as a kitten, and as sound as a dollar, and, my, how he can go! Don't forget this for a minute: "Beauty" is a real, live, flesh and blood Shetland pony, and he will be given away to some Farm and Fireside boy or girl on June 30th. And you can be that boy or girl if you start right now, and hustle. But "Beauty" is by no means the only prize. Altogether we shall give our boys and girls

"Beauty" is as playful as a kitten

Three Beautiful Ponies and Outfits
Five Hundred Magnificent Grand Prizes
And $2,000 will be Offered in Cash

Every year Farm and Fireside has a Pony Contest for its boys and girls, but this Pony Contest, which starts March 15, 1911, is the biggest and best Pony Contest we have ever held. In addition to 'Beauty,'' and the other two ponies and outfits, there will be three magnificent $600 Pianos, and Five Hundred Grand Prizes including a Gold Watch, a Victor Talking-Machine, a Bicycle, Shot-Gun, Sewing Machine, Camera and many other beautiful prizes. Besides all the prizes, more than $2,000 is offered to our pony contestants in Cash. If you wish, you will receive cash in place of a prize. See the pictures of the 1910 pony-winners and their ponies on Page 27 of this number. What pretty ponies they are. My, how proud these boys and girls are of their ponies. What these boys and girls have done you can do. You can win ''Beauty'' or one of the other beau tiful prizes. We guarantee that, for this is no ordinary contest. In this contest you can't lose, for we guarantee

He loves little girls, and he is, oh! so gentle and kind

A Prize For Every Contestant

Farm and Fireside stands behind this guarantee, with hundreds of thousands of dollars of capital. We want every Farm and Fireside boy and girl to take part, and we shall handsomely reward every boy and girl who enters. Just as soon as you become an enrolled contestant you are **sure** of a prize, **absolutely sure.** Farm and Fireside further guarantees that every contestant will be rewarded directly according to the number of subscriptions obtained. Nothing in the world can keep you from getting ''Beauty'' with his cart and harness, or one of the other beautiful prizes if you will hustle a little. And, in addition to your prize, we will pay you in cash for absolutely every subscription you get.

"Beauty" is a real flesh and blood pony. He is now on the Farm and Fireside pony farm

Write to the Pony Man To-day

Don't waste a minute. You can be the first to start. Send to the Pony Man to-day for full information about this Pony Contest. He will send you the big free Pony package, including ten handsome pony pictures, and the complete story of ''Beauty'' and the other ponies to be given away, and description of the other handsome and valuable prizes. You will also get a letter from the Pony Man telling you just how to win ''Beauty,'' together with everything necessary to start right in and win. The Pony Man will also send you, free, the beautiful Pony Book, full of pictures of beautiful ponies which Farm and Fireside boys and girls have won, and the pictures of the boys and girls themselves. It is the most interesting book for boys and girls ever written, and it's free. It is very important that you send at once. All these things won't cost you a penny, and won't commit you to do a single thing. Just write your name and address on the Coupon (or a postal card will do) cut it out and send it to The Pony Man. Don't wait, write to-day, now. Address

Cut this coupon out and mail to-day

Dear Pony Man:—Please tell me by return mail how to win "Beauty." Also send me, free, the pictures of "Beauty" and the other ponies, and the Pony Book. I am very anxious to get "Beauty," so save a place for me in the contest. I will send my ten subscriptions as soon as possible.

Name.....

Town.....

R.R..... State.....

THE PONY MAN, FARM AND FIRESIDE, SPRINGFIELD, OHIO

P.S.—If you want to make sure of a prize and of becoming an enrolled contestant, just ask 10 friends each to give you 25 cents for an eight-months' subscription to Farm and Fireside. Then you will be a prize-winner and an enrolled contestant sure. You can keep five cents from each subscription as your cash commission.

A special prize of 25 beautiful Easter Post-Cards will be given on April 1, to every Enrolled Contestant. Send your name to-day.

OUR YOUNG FOLKS

Conducted by Cousin Sally

A Poor Rule

By Ruth V. Clark

"Hi, yi, mama! Mama, look here! Look here!"

"I see—and hear, my son. What is it?"

"Fifteen cents. Earned it all myself."

"Splendid. Only nine years old and earning money. How did you do it?"

"Why, I cleaned the sidewalk for Mr. Decker. I went to the door and asked to clean the walk. Mr. Decker came to the door and asked me how much I wanted for doing it. 'Five or ten cents,' I told him. First he said he would clean it himself, then he said I could. That was after I told him my price," explained Raymond as he paused for breath. "Then I cleaned it. It was good hard work, too."

"That," approved Mrs. Ross, "is the way to do. If you want work, go after it."

After carefully examining his hands for several minutes, Raymond announced, "I got three blisters. There's one, and there's one, and there's another."

"Oh, well," his mother told him, "blisters don't hurt folks. You'll forget all about these before you're a grandfather."

From that small beginning Raymond continued to earn money by doing odd jobs in the neighborhood until he had quite a nest-egg in the savings bank. When people learned that he was a boy who was always ready to work they hailed him on his way to and from school and each new job made the nest a little larger and his hands a little harder so that blisters were becoming rare.

At this point in his business career his mother said to him one noon, "Don't you think you could clean our walk off before returning to school, Sonny Boy?"

"Aw, no," was the disagreeable answer. Then a bright idea, as he considered it, occurred to him, and he asked, "How much will you pay? I'll do it for ten cents."

"But you ought not to charge your mother for a little work like that," protested Mrs. Ross.

"I don't see why not," her son argued. "Everybody else pays me. Ten cents is cheap. It is worth twenty cents."

After a moment's consideration Mrs. Ross said: "I have always heard that it's a poor rule that don't work both ways. Do you think, Raymond, that you would like to be businesslike in all home affairs?"

The boy was surprised, but managed to answer firmly, "Yes, I should."

"Very well then. I will pay you ten cents to clean the walk."

Raymond soon finished the work and collected his money, but in the busy hours that followed entirely forgot that his mother had also started in business. However, he was reminded of it at supper by finding at his plate a menu with the price of each dish. Curiously he examined the card and was surprised on counting up to find that the entire supper would cost forty cents.

While wondering why the things a boy wanted to eat cost so much and puzzling over what course to pursue, his mother's voice startled him by asking, "What shall I bring you?"

"Why, why what does it all mean?" Raymond asked.

"You order and pay for anything you want on the menu," was the rather sharp answer.

The bewildered boy nervously pushed his finger over the different items and finally stopped at "Bread and milk, five cents."

"I 'spose I'll have to take that."

"Take anything you see that you like," urged Mrs. Ross.

The names of several of his favorite dishes looked very tempting, and his finger insisted on lingering at "Peach-sauce and cake, ten cents," but to take so much money from his cherished hoard was not to be thought of, so in scowling silence Raymond ate the generous quantity of bread and milk which he received for five cents.

After supper the young financier brought a mitten to his mother with the request that she mend the thumb. Mrs. Ross was reading near the open-fire, but she at once laid her book down and rose to get her work-basket herself instead of asking her little son to get it for her, as she usually did. Raymond noticed this and wondered until, when the mitten was mended, his mother said as she handed it to him, "Two cents, please." Then he understood.

For a long time he sat by the fire trying to puzzle out the new state of affairs. He was forced to smile once when the thought came to him, "What if mama should charge me for getting warm by this fire." At last he could bear the silence no longer and in as natural a tone of voice as possible he said:

"Mother, I guess I charged too much for cleaning off the walk this noon."

"Oh no, my son," his mother replied very positively, "it was not a high price."

Again there was silence while Mrs. Ross read and Raymond fidgeted. Then:

"Mother," taking her hand, and his voice was not quite so sure as before, "I don't know as I ought to have charged you *anything* for cleaning the walk. You do a good many things for me."

"That's all right, son. Don't think about it any more. After this we will be entirely businesslike. You can go to bed any time you want to. Your room is all ready. Lodging is eight cents if you can get along without a fire. If you feel cold I will build a fire and you will pay ten cents."

"Are you going to charge me for my bed?" The cry escaped the boy's lips before he could repress it. That was too much, and putting his head in his mother's lap he sobbed out his grief and disappointment in a "businesslike" manner.

In less than a minute the book was laid aside and the sorrowing little boy was held closely in his mother's sheltering arms. After the sobs ceased blessed rest and peace came to the little shaking boy. Bills of fare with prices attached, mittens, beds and even money were forgotten for the time.

"Sonny Boy," his mother tenderly asked, "do you think you like to be businesslike at home?"

"No, mama, I don't. After this I will work for you and won't charge a cent."

"That's my helpful boy, and now let us talk about this a little."

Then Mrs. Ross explained to Raymond some of the principles on which homes and family life are founded that he never forgot.

"It's like reciprocity, isn't it, mama? We had that word at school to-day. Teacher said it meant to help each other."

"That is exactly it, my dear. Each member of a family pays the others, not with money, but with willing help of some kind."

The Letter-Box

Dear Cousin Sally:—

I received my club button and think it is fine.

I wrote you a letter, and it was published in the September 10, 1908, number, and since then I have been getting post-cards and letters from the readers, both old and young.

I am still crippled and haven't improved any since I wrote to you before.

The letters and post-cards are a great pastime for me.

I have 1,680 post-cards—seven albums all full. And I enjoy looking at them so much. I have many lovely views. I like them, for I can see so many beautiful places it will never be possible for me to see in reality.

I have cards from every state in the Union but four. They are Nevada, Arizona, New Mexico and Maine. I am very anxious to get some from these states. I keep all the letters I get so I can read them over. I now have over four hundred. They are all very interesting ones.

I have a wheel-chair now, which was given to me as a surprise on last Fourth of July. You may know it was a pleasant surprise. The readers helped to buy it.

I got many lovely gifts on my birthday and Christmas from them.

I am having fine times with my wheel-chair. It is so nice now, and I can push myself in it 'most any place I wish to go.

I am always glad to see some letters on "our page," but wish you would print more.

I think the club has such a nice motto, and I am going to try to live up to it.

Well, I will close for this time, with every good wish to the cousins.

Your cousin,

(Miss) Ulyssa Calvert, Age Fifteen,
Gervais, Oregon.

Dear Cousin Sally:—

As I enjoy reading Farm and Fireside so much, I thought that I would write to you.

I wonder if any of the cousins like to ride horseback. I think it is fine. Papa bought me a saddle and I have a horse named Lucy that I ride. Papa and myself went fox-hunting last fall, and I had a fine time.

I have a little pet dog named Mac, also a pet cat named Friday. My little dog comes to meet me every evening when I come home from school.

I enjoy the stories in the young folks' page so much. I never see any letters from the girls and boys of North Carolina, so I hope that my letter will be printed.

Your little friend,

Mamie Crowder Hicks, Age Thirteen,
R. D. 2, Box 5, Manson, North Carolina.

Dear Cousin Sally:—

I am a country girl thirteen years old. I go to school and I am in the sixth grade. I do not ride horseback, but I play basket-ball and like it. We played with Atlanta Friday night and the score was six to nothing in favor of Atlanta. We took it all in fun and are going to try harder the next time we play. Friday night was the first time we ever played. We played in the auditorium. Our school-house is in the center of White River Township and is six miles southeast of Arcadia. It is called Walnut Grove. I live about one hundred rods from the school-house. We girls are going to have sewing next week. The boys are going to have manual training.

I want to join your club and I send five cents, for which send me one of the club buttons. I would like to exchange postals with all the boys and girls.

As ever your friend,

Celia Newby,
R. F. D. 16, Arcadia, Indiana.

Dearest Cousin Sally:—

I must write and tell you that our page has pleased me so much this last year.

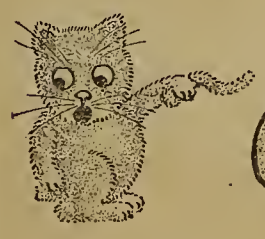
It is such pleasure to me to read the stories which appear on our page, also the cousins' letters. Best of all, I like your letters.

We have fine times coasting and skating.

I am attending school and am in the eighth grade. I would like to correspond with some of the cousins.

I have almost forgotten to tell you what contests I like best. Story and verse-writing are my favorite ones.

Lillie M. Saunders,
Hedgesville, West Virginia.



Careless Cats

By Frederick White

This is the cat who *didn't care.*
To-day she hasn't brushed her hair,
And looks as rough as any bear.

This cat *forgot* to go to school.
Next day they stood him on a stool.
I hope he's *really* not a fool.

This cat could be improved a lot.
Her one excuse is: "I *forgot.*"
Of course, *she* gets it good and hot.

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A Modern Farm-House

By William Draper Brinckle

VERY quaint and picturesque are the old-time farm-houses of the Eastern States—great huge kitchens, queer little winding stairways, long, enticing passages leading to some odd-shaped sleeping-rooms. Oh, the magazine-writers and the artists can wax enthusiastic over it all! But these same enthusiasts don't have to carry on the common things of life in such houses, else their point of view might change. For those old-time farm-houses—and, alas, many that are not old-time!—those farm-houses, I say, are sadly wanting in nearly all the things that go toward brightening the labors of the house-mistress. Steep, heart-breaking stairs, kitchens twice the needful size, bedrooms all on the upper floor, no indoor toilet arrangements—it's a long list! And yet it's quite possible to plan a convenient, comfortable, beautiful little farm-home at no more cost than the average commonplace thing. Just a moment, now, while we run over the points.

Here's a house suited to some young farmer and his bride, yet so arranged that additions may readily be made from time to time. Let's take the living-room. First, in place of having a separate dining-room, just one large apartment is built. Then, the dining-table may stand at one end; if need be, a curtain may divide the room. It's much less expensive and much less trouble than the usual two-room arrangement. The little office or den is meant as the private business place of the farmer, where he keeps his farm matter and meets the men to whom he would sell or of whom he would buy. This office is more and more to be found in modern farm-houses, for the successful farmer is becoming more and more of a business man. Or, the office might serve as a sewing-room. It is very well placed for such use, with a door opening to the kitchen so that the housewife has the shortest possible step from stove to sewing-machine.

The kitchen is small; the days when dozens of harvesters had to be fed are happily past, and a large kitchen only means more steps and more cleaning. Beyond the kitchen is the pantry, with its large dresser, while next comes a toilet-room with frost-proof water-closet. Off the living-room is a passage leading to bath, bedroom and linen-closet. This first-floor arrangement of bath and bedrooms means much to the housewife. It is a known fact nowadays that the constant climbing of stairways is utterly destructive to the physical well-being of any woman. Above all, the young mother needs these rooms; her endless ups and downs from crib to kitchen, and back, mean almost surely suffering and shortened life. Ask your doctor if this isn't so!

The stairway is so placed as to be convenient to both kitchen and living-room; the cellar-steps, by the way, having just as easy a slope as the others. It's absurd to put the steep, dangerous, laborious stairways in our cellars, when proper ones cost scarcely any more.

Up-stairs one finds two good bedrooms, besides an unfinished store-room or play-room. The space along all the eaves is used for storage closets, instead of being wasted.

Section. Scale 1/16 inch to one foot

Under the entire house a cellar is built. At front and rear the earth is banked up to form terraces. These terraces, cemented and sheltered by the broad overhanging eaves, serve in place of porches. A great saving, too, this is, for porches cost money! The brick walls extend up to the window-sill line; above that the walls are of frame, shingled on the outside. This shingle is not only far more picturesque than ordinary wood siding, but it is far cheaper, for the expense of repainting soon becomes a serious one to the frame-siding house, whereas shingles, once stained, require nothing more. The brick-work, by the way, is rough-plastered on the outside; thus any sort of cheap, defective bricks may be used.

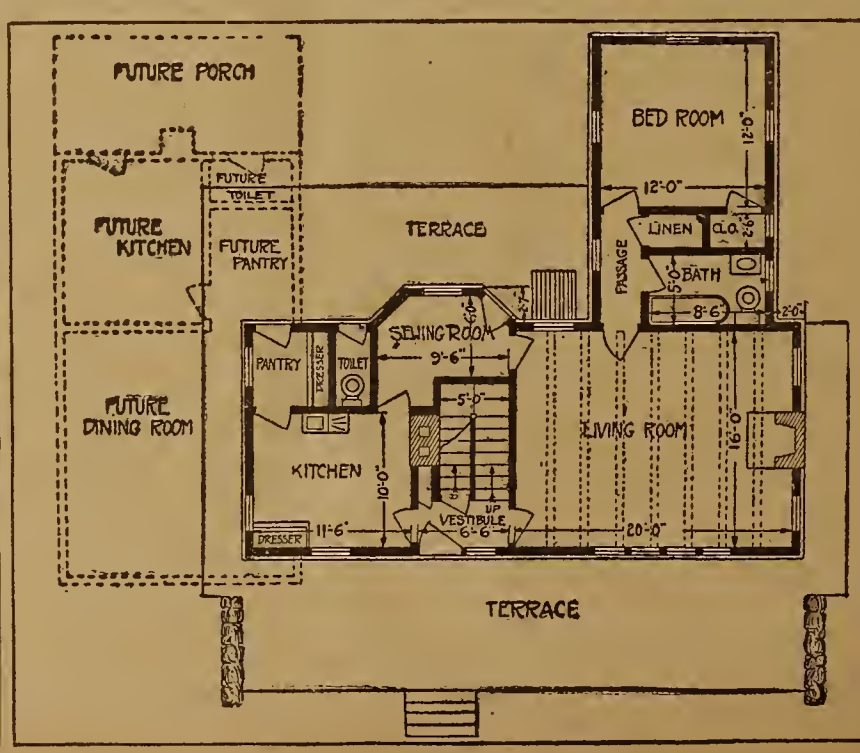
Inside the living-room all the second-floor joists show in the first story; they are planed and blocked together in pairs, so as to give the effect of a beamed ceiling. Properly stained, this is extremely attractive and less costly than a plastered ceiling.

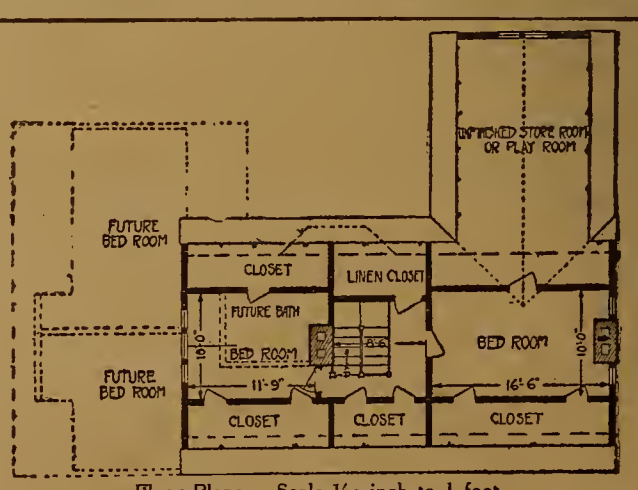
There should be some proper heating system in the basement; hot-water, vapor or something similar. Stoves, or even the old-style hot-air heaters, are not advisable; they burn entirely too much coal, require constant attention and do not heat the house properly. If possible, electric wires should be put in the house; a small generator run by gasolene-engine or windmill will give all the current, not only for lights, but for electric flat-irons, and that means a good deal of comfort to the housewife. The sewing-machine, too, may have a little motor, while the water supply can have an electric pump. Of course, if a trolley-line runs near, it is easy to buy one's current quite cheaply. The sewage from the bath-room runs into a deep cesspool, dug at least thirty feet from the house, on the lower side or, better still, to a septic tank. This is walled up with dry brick-bats and covered by a concrete slab.

It is quite useless to give an estimate of the cost of this house. The expense of building varies so greatly, in different places, that any figure set down would be woefully misleading, to nine out of ten readers. The only safe way is to take this magazine to one's local carpenter and show him this design; he can readily make some sort of estimate that will be fairly accurate, much more accurate than any price that could be given here.

This is surely a house that will appeal to the man or woman who is a lover of light and air. The seven windows in the living-room make it bright and cheerful—a very good thing in any house, particularly in a farm-house. This house can't help but appeal to the busy housewife, too, who knows the value of time and appreciates the need of having the rooms conveniently located to save her many unnecessary steps, and make her work less wearing and burdensome.

NOTE—Any questions regarding the modern farm-house here illustrated will be gladly answered by Mr. Brinckle if a stamped and self-addressed envelope is inclosed. Send inquiries to Margaret Hartness, FARM AND FIRESIDE, Springfield, Ohio.





Floor Plans. Scale 1/16 inch to 1 foot

There is one bedroom down-stairs and two bedrooms up-stairs. The living-room is large and cheerful and very conveniently located. Note the plans for the future enlargement of the house. Later on, when your needs and means have increased, these additions may be made, and thus both appearance and convenience vastly improved.

The Housewife's Letter-Box

Do You Need Help?

Have you been looking for a special recipe for years? Do you need any information on household matters? And do you meet with little problems in the home that you wish someone would solve for you—someone who has had a little more experience than you? Then, why not make use of YOUR OWN department and ask the questions which have been troubling you? This department has proved that the spirit of helpfulness is abroad in the land, especially among the women of the farm. That our readers have the mutual desire to help one another is evidenced by the large and prompt response we have had to the questions which are printed here monthly. There is no payment made for contributions to these columns. All answers and inquiries should be addressed to "The Housewife's Letter-Box," care of Farm and Fireside, Springfield, Ohio.

Questions Asked

Will someone please tell me—

How to make an especially fine layer cake?
C. M., Ohio.

Recipe for making cream-puffs?
A SUBSCRIBER, Utah.

How to make buckwheat cakes with yeast so that they will not sour without using soda?

How to crochet an aviation cap?
MRS. N. E. D., Ohio.

How to make vanilla wafers like those you buy? MRS. B. R. T., Kentucky.

How to make lemon-butter?
MRS. C. M., Ohio.

Mrs. E. B., of Wisconsin, would appreciate some patterns of crochet rick-rack.

Questions Answered

Measured Pound Cake, for Mrs. C. A. D., Tennessee—One and one half cupfuls of sugar, one cupful of butter, five eggs, two cupfuls of flour, one scant teaspoonful of baking-powder. Beat sugar and butter to a cream; stir eggs and flour together; then stir all together, adding baking-powder last. Flavor with ten drops of rose-extract.
M. E. S., New York.

A design for the quilt pattern, "Corn and Beans," has been contributed and will be illustrated in the Letter-Box April 10th issue.

Recipe for Cheese, for S. W. Z., Georgia—Here is a recipe for making cheese that I have used for forty years with satisfactory results. I find it a good way to use surplus milk when the cows are fresh. Take the evening milk, strain into a boiler. In the morning stir the cream well into the milk, set it on range and heat to eighty degrees. Add morning's milk; set boiler on back of range and add one third of an ounce of rennet-extract to eight gallons of milk. Use enough rennet to start milk curdling in one half hour. Let stand two hours. The cheese is ready to cut when it will cut smoothly. With a long knife cut both ways in one-half-inch squares. Let stand fifteen minutes, then pour over this a tea-kettleful of boiling water. Let stand one hour, then draw off the whey, salt the curd just enough to be palatable and thoroughly mix. It is now ready for the press. A straight gallon tin bucket with the bottom cut off will do very well for a hoop. Line this with cheese-cloth, first setting the hoop on a smooth board, then filling with curd. On this place a follower, slightly smaller than the hoop. Apply pressure by placing a ten-pound stone on the follower. Let this remain ten hours, then place another ten-pound stone on this. Let remain twelve hours. These stones do very well when there is no better way of adding pressure. Take from the press and bind a strip of cheese-cloth around the cheese. Wipe the cheese dry. Place on a shelf in a cool dry room and rub and turn every day for eight weeks, when it will be sufficiently cured and ready to use. Dip a cloth in melted butter and use daily for rubbing the cheese.

Eight gallons of milk should make a five-pound cheese.

A hoop seven inches in diameter will make a cheese four inches thick with this quantity of milk.

Below is my recipe for making rennet-extract:

Secure a rennet from your butcher. (Rennet from a calf is best.) Thoroughly clean and wash, then fill full of salt and rub salt on outside. Rennet prepared in this way will keep good any length of time.

When rennet-extract is wanted for making cheese, cut off one inch of rennet, put in a half cupful of water and let stand overnight, and the extract is ready for cheese-making.
MRS. E. W., Illinois.

If Mrs. W. H. F., who writes that her cream will not churn, will read the letter by G. E. H., of Illinois, printed in our February 10th issue in this department, I feel certain it will contain just the help she is looking for. EDITOR.

To Keep Cider Sweet, for Mrs. M. H., Connecticut—If you will let the barrel of cider lay out of doors on the ground when it comes from the cider-mill in the late fall, you will find that it will keep sweet all winter. Do not put a faucet in the barrel, but siphon it out with a rubber tube. The cider will not freeze in the coldest weather.
MRS. B. I. B., New York.

Mrs. W. W. S., of Oklahoma, suggests the following for keeping cider sweet: Put in a porcelain kettle, put on stove and let come to boiling-point. Then can in glass jars same as you do fruit.

Pudding-Sauce for Mrs. M. M. J., Ohio—For a pudding-sauce that can be used as a foundation to be varied according to circumstances, take a piece of butter the size of an egg, and melt in the saucepan. Blend with the melted butter two tablespoonfuls (heaping) of flour; add half a cupful of sugar mixed with a tablespoonful or more of flour to prevent forming lumps, and a cupful of water. Bring to a boil, add a pinch of salt and flavoring, and it is ready for use. Another form of this sauce is made from coffee left from breakfast, instead of water, and the yolk of an egg beaten up with as much cream as one can spare, the thickened sauce poured upon the beaten egg and cream, beating thoroughly. This can be made as rich or as economical as one likes. Vanilla, lemon or vinegar for an acid sauce, fruit-juice left from preserves, all can be used for a change. Don't forget the pinch of salt; it makes an amazing difference in the flavor. White cottolene can be used in place of butter.
MRS. M. H. N., Massachusetts.

Here are two recipes for hard sauce, which Mrs. R. G. H., of Massachusetts, thought Mrs. M. M. J. would also like to have:

No. 1 Hard Sauce—One tablespoonful of butter melted in one tablespoonful of boiling water. Beat in slowly one cupful of powdered sugar until creamy and add juice of one half lemon and a little nutmeg, if desired. Set to cool till firm.

No. 2 Hard Sauce—One cupful of sugar, piece of butter size of an egg, well creamed together; add to this the well-beaten white of an egg. Flavor to taste.

The following recipe is a little different from the ones given above. Perhaps Mrs. M. M. J. will care to try them all:

One tablespoonful of flour, one tablespoonful of butter, one teacupful of sugar, two cupfuls of boiling water. Put on stove and boil about two minutes, then stir in the beaten yolk of one egg. Be careful not to let egg curdle. Let stand until cool. Flavor with vanilla, then stir in the white of egg beaten to a stiff froth. I always mix the flour and sugar together, so that the flour will not be lumpy, and set the sauce back from fire so that it will not be too hot before adding the yolk of egg.
MRS. E. L. B., Pennsylvania.

To Keep House Plants in Winter—I keep my plants from freezing in winter by putting them in a large box papered inside and out with many layers of newspapers. I put the box on the floor and throw an old quilt over the plants. MRS. C. H. B., Missouri.

Corn Crisp, for L. M. S., Ohio—Take one third of a cupful of glucose, two thirds of a cupful of sugar and one fourth of a cupful of Orleans molasses and a very little water. Put in granite kettle and boil two minutes, then add one fourth of a cupful of butter. Cook and stir until it begins to color. Have twelve cupfuls of corn popped and hot in big pan. Add a pinch of salt. Pour candy over corn, stirring briskly. Press out on table into thin layers. Use a common pint cup.
MRS. R. M., Indiana.

To Can Sauer-Kraut, for A Subscriber, Nebraska—When it is ready for use, put in vessel and bring to boiling heat. If it is too dry, put in water so that when the glass cans are filled there will be a little juice on top. Seal cans or jars with wax same as you seal fruit jars. M. S., Indiana.

Mrs. H. S., Colorado, writes: Put the sauer-kraut in a granite dishpan with plenty of water, and boil until it is pretty thoroughly cooked. Can and seal, same as fruit is canned. Be careful to put in plenty of juice so there will be no air bubbles to cause it to ferment. If the juice boils out in the dishpan, I add boiling water.

Dandelion-Wine, for E. C. B., Pennsylvania—This is the recipe which was printed some time ago in FARM AND FIRESIDE:

For a good tonic in the spring or to take after an attack of the grip, nothing is better than wine made of dandelion blossoms. It is made as follows: One gallon of blossoms and a small handful of the roots; over these pour one gallon of boiling water and let stand for twenty-four hours. At the end of this time add five lemons and three pounds of white sugar and let it stand two weeks or until it ferments thoroughly. After it has ceased working, strain and bottle. Sometimes it takes longer for it to get through working than other times, on account of the difference in the amount of heat it gets.

Some people prefer adding part orange instead of all lemon, and also a handful of raisins, but this is only to make it more palatable, for it does not add to the value as a medicine.

To Remove Lime from inside of a tea-kettle, for L. A. F., Venetia—Boil vinegar in your kettle. It will loosen the lime and cause it to crack off. Scrape it all off. Always keep an oyster-shell or a few marbles in your kettle. The lime will collect on them instead of adhering to the bottom and sides of the kettle. Of course, the marbles should be removed very frequently. EDITOR.

To keep cheese from molding, for Mrs. E. W. La. G., New York—If you will take a muslin bag wrung out of vinegar and put cheese in bag, it will not mold as long as it is kept moist. A. L. S., New Jersey.

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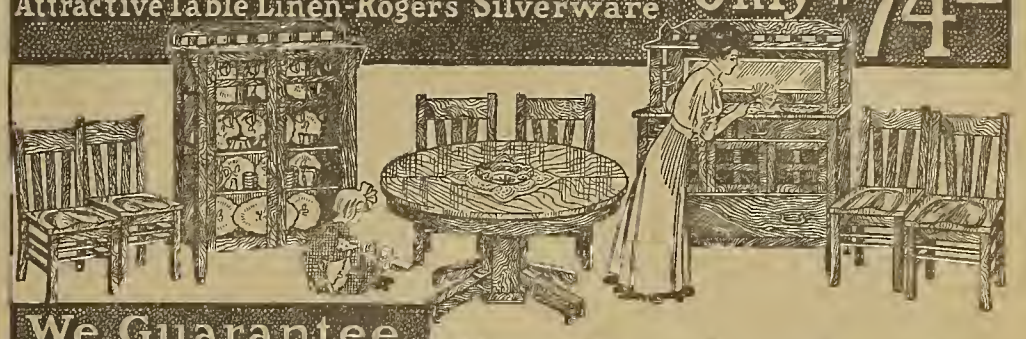

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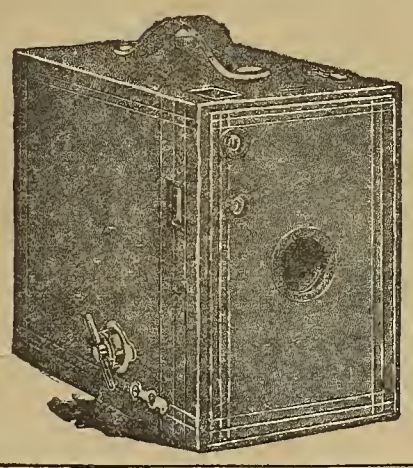

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TOWN.....

Date..... STATE.....

If you send another subscription with your own, write the name and address below, or on a separate piece of paper.

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.....

Poor Relations

[CONTINUED FROM PAGE 26]

son, who had no cause, your petted, pampered darling is a thief, too! He forged, I saw him with my own eyes. He signed your name to a check! He is a thief, too!"

Suddenly Fred exclaimed hoarsely, his face ashen.

"Don't pay any attention," his father ordered. "He's crazy."

"Crazy, am I? Oh, no!" his brother mocked.

"Then you are lying!" The man's face was livid.

"Be careful! I have the proof!" came the sneering answer.

Eagerly he fished in his pocket for the pink scraps and again made a complete signature out of some of them.

"Look!" he cried. "Charles F. Martin. Look! That is your name, isn't it? You didn't write it, did you? No? Well, your son did. I saw him. I was behind the screen in his office and I saw him." Covetously he grabbed the scraps and replaced them in their hiding-place.

Suddenly he turned to the boy. "Deny it!" he cried. "Go on, deny it. I have the proofs."

"Fred!" his father's voice was terrible, "is this true?"

The weakling quailed. "Well," he blustered, "what if it is?"

"What if it is?" Charles Martin roared. "I'll show you!" He started toward the boy, when Fred broke out defiantly:

"I don't care what you think. I told you I wanted two thousand dollars. I told you to take the consequences when you refused it. Whatever happened is your fault. I told you I'd get even, and I did!"

"Where's the check?" The big man was shaking as with an ague.

"It's in the bank," the son retorted. "You're too late!"

"My God!" his father gasped, even as the old man cried exultantly, "In the bank! Then I've got you. You have been dictating terms to me—now, Charles Martin, I'll do some dictating. Every check in the G——— Bank goes through my hands. I'll get this one. Then I'll show up your darling boy. All your money won't stop this scandal."

Charles Martin seemed stricken dumb. He stared at his son—he stared at his brother—stunned. Then suddenly he raged to his feet. "It's all a conspiracy," he cried. "It can't be true! Fred," he shook the boy by the shoulders, "tell me, you couldn't do such a thing!"

"He did do it!" the old man chimed in. "He did do it. To-morrow everybody will know." His whole body shook with glee. "Everybody will know that all of Charles Martin's millions couldn't keep his son straight!" The words came with bitter force.

Suddenly Fred made a swift motion to leave the room. "Stay here, sir," his father ordered. "Don't you budge! I'm going to see if this is all a fiendish fairy tale."

He turned to his desk and took up the telephone. "Hello," he called. Spring 5005."

"The bank—what for?" his son whispered.

Mr. Martin did not answer. In a moment he had his connection.

"Is this Mr. Smith?" he questioned. "Yes—listen, Smith, has Fred been at the bank within the past two hours? Find out, please." He was all anxiety.

In a moment his answer came. "He was," he repeated lifelessly. "Yes, that's all. I just wanted to locate him. Good-by."

He turned back to the others, older by ten years. A shudder shook his heavy frame.

Slowly he turned to his brother, his face gray white.

His was a physique made for command. Helplessness sat ill on him.

"George," he muttered hoarsely, with utter change of manner, almost an appeal in his eyes, "you've got me. I'll pay you your price. Your son goes scot free."

The old man fairly stammered with eagerness. "So you think that is my price, do you? Oh, no!"

Charles Martin turned to his son dully. "Why did you do it, boy?" he questioned. "Why in the world did you do it? Were you anxious to humble me to the dust?"

"It's your own fault," Fred growled, "but I won't talk in front of him." He jerked his head toward his uncle's bent form.

"Before I go any further I've got to know the whole of this thing," the father exclaimed. "Will you go into the next office a few minutes, while I question the boy?"

"And let you smuggle him off to Europe, eh? Hide him until I die! Oh, no; I'll stay right here. You can't hoodwink old George!"

Mr. Martin looked at the old man helplessly.

"I give you my word of honor that he will not leave this room," he volunteered.

His brother shuffled to his feet. "All right, go ahead!" he mumbled. "After all, I could make a pretty scandal, no matter where he was." He walked to the door, and stood there a minute. His white hair, silky and tinged with yellow, was disheveled. His parched skin was gray, his lips almost colorless. Only his eyes burned hot. If ever pathos and menace were blended in one figure, they were in his. He looked at the two men in silence, then walked into the next office and closed the door.

Charles Martin looked at his son, anger and despair on his face.

"Well," he finally ejaculated, "who was it that made you forget your—honor—and your—family?"

"Now listen here." Fred got to his feet loudly argumentative. "I told you last evening I wanted that money for something decent, the decentest use I have ever wanted money for in my life. Couldn't you have believed me? No! You went up 'in the air!' How did I know you thought I was a fool? You made me one! I've had money all my life, but not much else. You and mother and Pen were all too busy to worry about my doings so long as I kept out of your way. I was packed off to boarding-school, then to college, with an allowance large enough to spoil a saint; and when I finally came home who took any interest in me? You may have felt it, dad, but you took good care not to show it.

"Now you ask me why I didn't consider the family. Well, I didn't care a hang—"

"That will do," his father interrupted. "What did you do with that money? That is what I want to know. Answer me, sir!"

"All right, then," the boy's voice was insolent. "I used it for Marion Martin!"

"What!" the older man stormed to his feet, all barriers broken by this fresh revelation.

"Confound these poor relations!" he swore. "Like rats, they come creeping out of every crack and crevice! We were happy before they interfered. First the girl lures you away from us, and now my brother—my own brother is going to disgrace us all! For Marion!" he exploded fiercely. "She wasn't satisfied with coming to our house and trying to make a scene, she had to inveigle my son into crime! What did I ever do that I should be cursed with poor relations? Why should I be a human check-book for the entire family? Not one of them would have come near me, if they didn't want something!" He sank into his chair, panting, only to grasp the telephone a minute later.

"Give me the *Morning Chronicle*," he demanded. He looked at his son grimly. "I'll give your young lady a piece of my mind!" he laughed savagely. "If she insists on her claim of relationship, I'll use it, and she will never forget what I say."

"Hello, *Chronicle*. Is Miss Martin in? Miss Marion Martin."

"See here, father," Fred broke out. "Don't get so excited. She's the finest girl imaginable. She doesn't even know that the money was for her; she wouldn't listen to me when I offered it. She is true blue."

"Don't lie! I don't believe you," his father cut him short.

"Hello, Miss Martin?" the man's face was a study in angry disgust. "This is Charles Martin. Yes, I want you to come to my office right away. I want to see you."

"Won't this afternoon do? I am very busy." Fred caught the faint words even where he stood.

"No, now! It's imperative. Come!" His voice was stern.

"Very well. I'll come right now."

Mr. Martin slammed up the receiver.

"Dad," Fred's face looked manlier than his father thought possible. "You don't want to make any mistake about Marion. We have all treated her and her sister like cads or snobs or anything that's beastly.

"She has worked hard here in New York. We haven't helped her. She came to our ball not out of choice, but because she was a reporter and had to! She should have been an invited guest. Don't you suppose it hurt her? I wish you could have heard Jack Hastings take her part against Penelope.

"I wasn't myself that night, and I behaved like an idiot. The next day when I called on her to apologize she refused to see me, and when I did get to see her, she almost showed me the door. By Jove, yes. She's as proud as Lucifer.

"At any rate she told me in her excitement that some publishers would accept a book of hers if she could pay fifteen hundred dollars. Then she would be independent.

"I offered her the money right away—but she just laughed at me—and that was all there was to it.

"Just the same, I made up my mind to send a check to the publishers and fix it with them that she should think they accepted it unconditionally. I wanted to give her a lift! I suppose I'm crazy, but I love her, and I'd marry her to-morrow if she would have me." He raised his head and looked at his father defiantly.

"Marry," Mr. Martin sneered. "You are going to be punished, Fred!"

"Oh, no, I'm not! I have that much respect for you. I know your brains and your money will keep me out of trouble some way. I'm not even frightened." He paused and added sullenly, "Don't you bully Marion, father; I won't stand for it!"

"You won't stand for it," Mr. Martin repeated dully. "Aren't you ashamed—at all? But go call George. Every word you say only makes matters worse!"

[CONCLUDED IN OUR NEXT ISSUE]

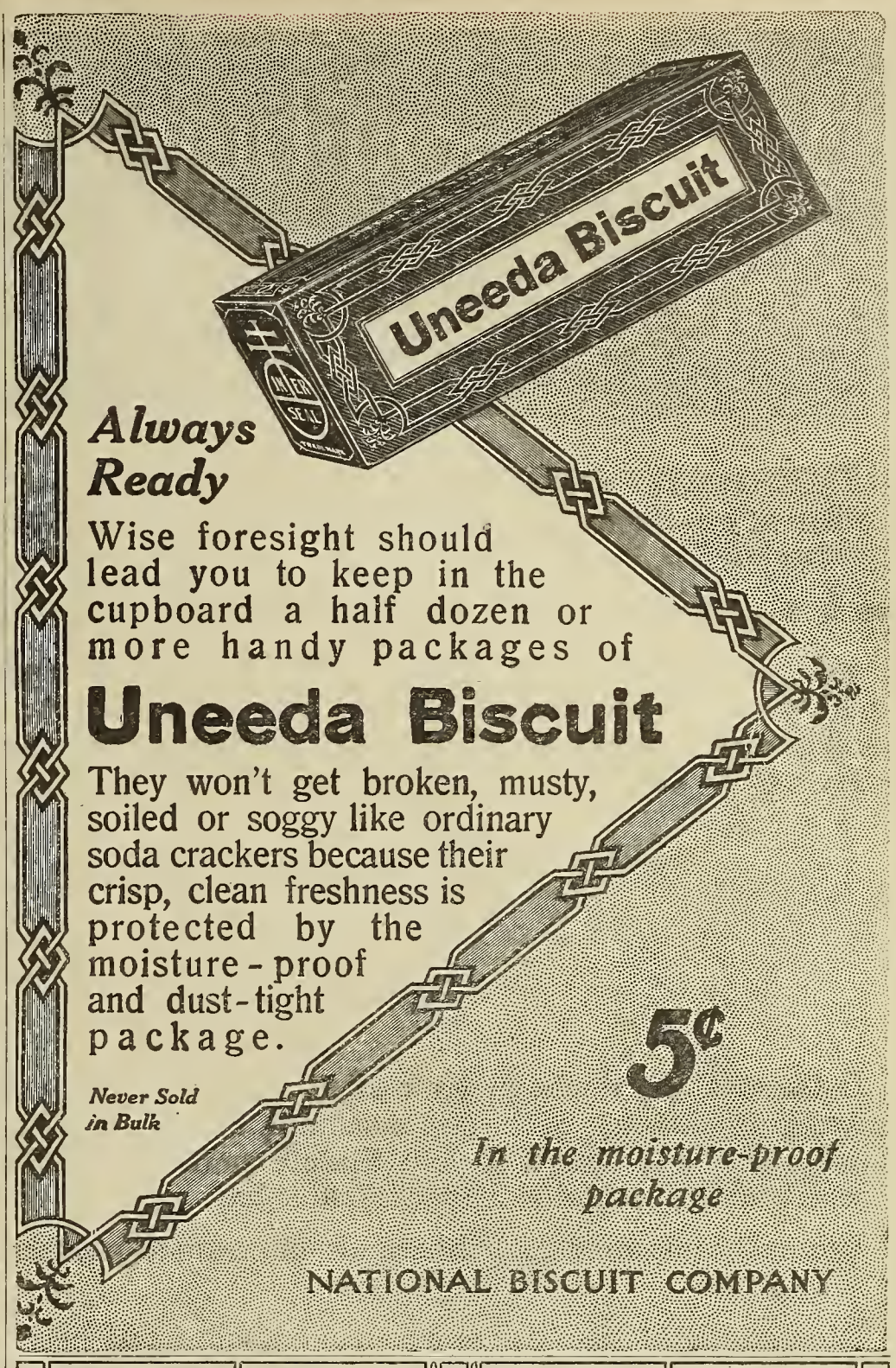
Do You Know Jed?

By Tudor Jenks

It's mighty queer, but in our town
There ain't nobody knows
The way to do things like Jed Brown!
To hear him you'd suppose
There never yet was made or planned
So slick a farm as he
Would have if he could get some land;
But he ha'nt none, you see.

He tells us all our "hay-crop's scant,"
And don't amount to much;
It's not the way "*he'd* plow," or plant,
Or "pizen bugs and such,
Why, when Jed sniffs or sorter smiles
You feel just like a gawk—
I never seen so many styles
Of plain and fancy talk!

But, somehow, Jed don't get along;
Year in, year out's the same;
He sings one old unending song,
And don't "get in the game."
We keep at work and raise good crops.
In spite of all he's said,
I sometimes think one needn't know
So many things as Jed!



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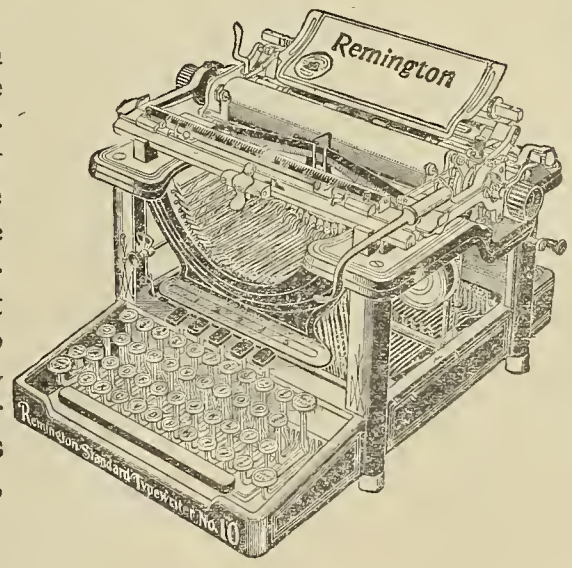

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Skims the cleanest
Turns the easiest
Is easiest to wash
Is best constructed

If there is any doubt in your mind when you make this test as to the comparative skimming of the two machines, take a sample of skim milk from each separator and send it to your State Experiment Station. They will tell you which sample contains the most butter-fat.

We sell thousands and thousands of cream separators every year upon just such tests.

We don't hesitate to ask you to make such a test because we know the DE LAVAL will skim cleaner and give you better service than any machine on the market. That's why we are perfectly willing to let you try it out alongside of any "would-be" competitive machine ever built. Our willingness to have you make such a test should mean more to you than volumes of printed claims.

Give your cows a square deal. Be fair to yourself. If there is any one farm machine that should be of the very best possible construction it is the cream separator. It is used oftener than any piece of farm machinery—730 times a year—and the very best machine that you can buy will be far the cheapest in the end. You have always heard the DE LAVAL spoken of as a high-grade machine. All DE LAVAL users are DE LAVAL "boosters," because it always "makes good."

DE LAVAL cream separators are made in all sizes and capacities, from a 135-lb. an hour machine that sells for $35 to a 1350-lb. machine that sells for $160.

DE LAVALS are made to run by hand, or can be furnished with attachments for operation by various kinds of power.

We have agents in almost every locality who will be glad to set the machine up for you and give you a free trial, and we have an arrangement with our agents whereby a purchaser, if he desires, may make a partial payment at time of purchase, and pay the balance on easy terms covering a period of twelve months.

If you are interested in the purchase of a cream separator, be sure to write for our new catalog which illustrates and describes in detail the features which have made the DE LAVAL the universal favorite among dairymen all over the world.

In writing please address your inquiry to nearest De Laval office.

THE DE LAVAL SEPARATOR CO.

165-167 Broadway	29 E. Madison Street	Drumm & Sacramento Sts.
NEW YORK	CHICAGO	SAN FRANCISCO
173-177 William Street	14 & 16 Princess Street	1016 Western Avenue
MONTREAL	WINNIPEG	SEATTLE

Sooner Or Later You Will Buy a DE LAVAL

98% of the World's Creameries Use DE LAVAL Cream Separators

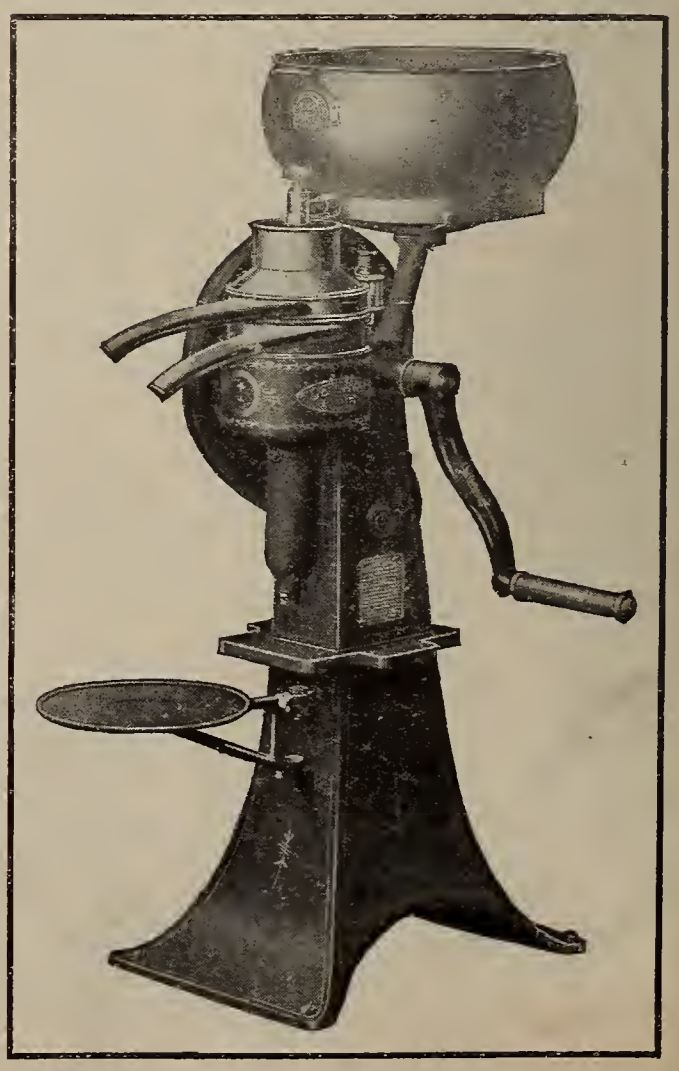
Ten years ago there were a dozen different makes of creamery or factory separators in use. To-day over 98 per cent. of the world's creameries use DE LAVAL separators exclusively.

It means a difference of several thousand dollars a year whether a DE LAVAL or some other make of separator is used in a creamery.

Exactly the same differences exist, on a smaller scale, in the use of farm separators. Owing to the fact, however, that most farm users do not keep as accurate records as the creameryman, they do not appreciate just what the difference between a good and a poor separator means to them in dollars and cents. Nine times out of ten the farmer can't tell whether or not he is wasting $50 to $100 a year in quantity and quality of product through the use of an inferior cream separator.

Now, if you were in need of legal advice, you would go to a lawyer. If you were sick you would consult a doctor. If you had the toothache you would call on a dentist. Why? Because these men are all specialists in their line, and you rely upon their judgment and skill. When it comes to buying a separator why not profit by the experience of the creameryman? His experience qualifies him to advise you correctly. He knows which separator will give you the best service and be the most economical for you to buy. That's why 98 per cent. of the world's creameries use the DE LAVAL exclusively.

There can be no better recommendation for the DE LAVAL than the fact that the men who make the separation of milk a business use the DE LAVAL to the practical exclusion of all other makes.



WESTERN EDITION

FARM AND FIRESIDE

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1911
Agriculture

THE NATIONAL FARM PAPER

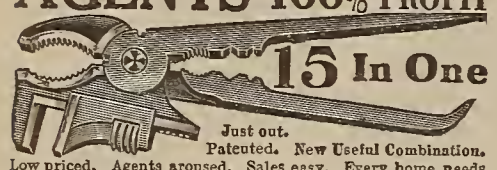
ESTABLISHED
1877

MARCH 25
1911

A Thrilling Detective Story Begins April 10th

5 YEAR GUARANTEE
WATERLOO BOY
THE PRICE MAKER
Price No other gasoline engine reduced the price of gasoline engines like the WATERLOO BOY
Waterloo Boy has fewer parts than any other engine. It costs less to make few parts than many parts. WATERLOO BOY is made in large quantities. It costs less per engine to make 100 engines a day than to make 10. That's why we make the underselling price.

Service
Waterloo Boy is Dependable
Always ready to go. No fuss. No Bucking. Starts easy in winter. Igniter simple as a pair of scissors. Automatic feed regulation does away with both the expense and bother of a pump. Speed lever works like a throttle on a locomotive. Nearly all parts are interchangeable. If you want satisfaction all the year round, buy the Waterloo Boy.
Waterloo Boy Lasts
It's not a "cheap skate." Built of best material, by men that know how. 17 years of making good. GUARANTEED 5 YEARS. 30 DAYS FREE TRIAL
Durability
Waterloo Gasoline Engine Co.,
173 W. 3d Av. Waterloo, Iowa.
WE DO AS WE ADVERTISE

AGENTS 100% PROFIT

15 In One
Just out. Patented. New Useful Combination. Low priced. Agents aroused. Sales easy. Every home needs tools. Here are 15 tools in one. Essex, Co., N. Y. agent sold 100 first few days. Mechanic in shop sold 50 to fellow workmen. Big snap to hustlers. Just write a postal—say: Give me special confidential terms. Ten-inch sample free if you mean business. THOMAS MFG. CO., 5746 Wayne Street, DAYTON, OHIO

EVER NEED LUMBER?
Make It Yourself
If you have timber, save money and make money sawing for others, with a Portable
American Saw Mill
Simple, reliable, little power needed, no experience necessary. Catalog free. Also describes woodworking machinery of all kinds.
AMERICAN SAW MILL MACH'Y CO.
150 Hope St., Hackettstown, N. J.
1576 Terminal Bldgs., New York

PATENT YOUR IDEAS
$8,500 for one invention. Book, "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. Patents advertised for sale at our expense in fourteen Manufacturers' Journals.
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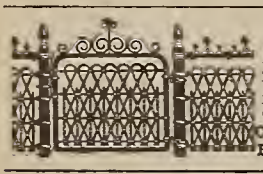
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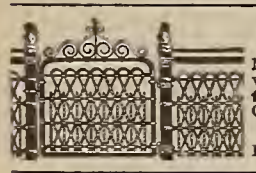
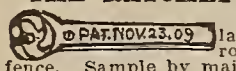
Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Churches and Cemeteries.
Coiled Spring Fence Co.
Box 403 Winchester, Ind.


LAWN FENCE
Many Styles. Sold on trial at wholesale prices. Save 20 to 30 per cent. Illustrated Catalogue free. Write today.
KITSELMAN BROS.
Box 322 Muncie, Indiana.

THE RATCHET WIRE SPLICER


Will wrap with ease the largest hardwire in the narrowest space in a woven fence. Sample by mail post paid for 50 cents. Agents wanted. Free illustrated circular.
A. B. PROBASCO, Lebanon, O.

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LEARN TO WRITE ADVERTISEMENTS EARN $25 to $100 A WEEK
We can positively show you by mail HOW TO INCREASE YOUR SALARY. Book mailed free. Page-Davis, Dept. 25, Chicago Ill.

It is to your advantage to mention Farm and Fireside in writing to advertisers. Farm and Fireside folks get the very best attention.

$50 TO $300 SAVED
We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from $50 to $300 on my High Grade Standard Gasoline Engines from 1¾ to 28-H.-P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.
GALLOWAY
Price and quality speak for themselves and you are to be the sole judge. Sell your poorest horse and buy a
5-H.-P. only $119.50
You Can Make From $5 to $10 a Day
Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big BOOK FREE.
Wm. Galloway, Pres.
Wm. Galloway Co.
745 Galloway Station
Waterloo, Iowa

With the Editor

FARM AND FIRESIDE has, in the person of Mr. Wm. H. Plohr, R. F. D. 1, Warren, Ohio, a reader who thinks for himself. He takes me to task for some things in our advertising columns, makes some interesting suggestions and asks us to insert an advertisement for him (and send him the bill for it) in the following words:

> If you have a big farm, I will rent 30 acres of it, on the following terms: There must go with the thirty acres a 7-room house, stable and barn for 3 horses and 5 cows, pens and sheds for 10 to 15 hogs, chicken-house for 25 to 50 chickens. I will sign a contract for 10 years to work out the rent of this property at $1.75 a day of 10 hours, working every other day each year as agreed until the rent is paid. Buildings must be good, and the 30 acres fenced well, with one 5-acre lot fenced for pasture and the garden of ½ acre fenced pig and chicken proof. Place must be within easy reach of a Catholic church from one to three miles, or access by street-car to church.

Well, Mr. Plohr, here's your advertisement, free of charge. I can assure you that it would have cost you a good many day's labor at seventeen and a half cents an hour to pay for that much space in our advertising columns. I am putting it in here, because it contains an idea. An idea is worth its space anywhere.

Mr. Plohr's idea relates to the problem of farm labor. He is evidently a man who is willing to put in half his time working for a farmer, if he can have the rest of his time to himself. Isn't that a fair and reasonable proposition? He wants a house, so that he can live like a good American, with wife and family, instead of, like a tramp, here to-day and there to-morrow. He wants to be a citizen and a fixture in the community, with a vote and a voice, and a stake in the land. He is willing to be a hired man to-day if he can be his own man, running a little leased farm of his own to-morrow.

If you have the big farm mentioned, why isn't this a good proposition for you? If the land is worth four dollars an acre a year, you can get the rental in the hardest commodity to get in the market—good dependable labor—for we must assume that Mr. Plohr can give references and show himself to be a good hand.

Now the important thing about this matter is not the case of Mr. Plohr, or of one man with a big farm, but of the need on farms for the people who are needed to work the farms. We are becoming more and more dependent on casual labor, which moves from farm to farm and from job to job doing the work of the nation, and getting mighty little for it except a bad reputation and demoralizing influences. There are a great many men in the country like my correspondent, who want a home and are willing to work steadily and well, if conditions are made attractive.

* * *

MR. PLOHR does not get through with us, however, in one trip. He has ideas as to how we should run the advertising columns. Listen to what he says—I condense a little:

> I notice that you put in ads. for things that do not benefit the farmer, but rather tend to entice the young man from the farm, such as "Young Men Wanted for Brakemen, Firemen, Conductors," with instruction by mail.
>
> I think you would do better by the farmer if you would start a want column for him to secure him help through your paper, leaving out such advertisements as "Young Men Wanted," Walter Baker's Cocoa and Chocolate, Whittemore's Shoe Polish, Hoosier Ranges and Heaters, Rugs, Carpets, Curtains, Wright's Underwear, Macbeth's Lamp Chimneys, "Two Bags of Poultry Feed for the Price of One," etc. Such as these do the practical farmer no good, and he does not like to pay out his cash for such trash. As a farmer, I would say keep your paper what its name implies, FARM AND FIRESIDE, the Farmers' Paper.

You see this man has ideas of his own. He believes that a paper has duties toward its readers in the matter of advertising. We believe this, too. We take no advertising the good faith and reasonableness of which we have not investigated. And we guarantee the performance of every promise made by advertisers. If a swindler gets into the family of a reader through our advertising columns, we make good the losses to our subscribers.

But Mr. Plohr thinks we should act as guardians against unwise and extravagant acts on the part of our readers, as well as protectors against swindling. And do you see where this would land us?

Mr. Plohr does not think farmers should polish their shoes. You do. Shall FARM AND FIRESIDE decide whether the makers of a shoe-polish shall give you the chance? Mr. Plohr does not believe in proprietary poultry feeds. Most of our poultry writers, I notice, do believe in them in one form or another. Shall we keep the whole poultry-feed matter dark for fear that someone will make a mistake? Mr. Plohr does not believe in "fudge" or cocoa frosting nor any of those delicious confections that girls of all ages like to putter with—to the delectation of some man's appetite, usually. But if you will look in the Housewife's Club, you will find that most of the women do. Shall we say "Hush!" and shut out the cocoa advertisements because Mr. Plohr thinks the ads. "trash?"

For, of course, he doesn't think these articles "trash." Those mentioned by him are standard articles of proved excellence. But he doesn't think the space devoted to the advertisements is used as well as it could be.

I wonder how many readers there are who agree with Mr. Plohr! Don't, for mercy's sake, write in about it, for no matter how many there are we couldn't change our methods of doing business. It would be impossible.

In the first place, we can't be guardians for our readers. They would explode in a body with indignation. The farmers of this country are able to judge for themselves as to what they want to buy. All they want is the knowledge—which they have—that the advertisers among whom FARM AND FIRESIDE introduces them are clean and honest tradesmen.

As a matter of fact, if we were to print FARM AND FIRESIDE without ads. one issue, people would not like it. The best writers are employed to make the ads. interesting. Do you know any paper or magazine that has any circulation without advertising? No! There would be if the subscribers did not like the advertisements.

And, finally, if the manufacturers of cocoa, ranges, shoe-polish, and the like, are willing to pay for the publication of Mr. Plohr's paper, how as a good business man can he object? It pays these people to talk to you through the columns of FARM AND FIRESIDE, and they more than cut in half your subscription price.

Of course, we couldn't use space as valuable as ours for "Help Wanted" ads. Mr. Plohr's ad. will go to tens of thousands of farms so far from Warren that he wouldn't think of moving if he found that man with the thirty acres of land and buildings—which I hope he'll find. If he had paid for the ad., he would have had to pay for all that circulation that would be of no use to him. But for things like those he criticizes, these columns are a great clearing-house for good business.

Herbert Quick

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ABOUT ADVERTISING

FARM AND FIRESIDE does not print advertisements generally known as "readers" in its editorial or news columns.

Mention FARM AND FIRESIDE when you write to our advertisers, and we guarantee you fair and square treatment. Of course we do not undertake to adjust petty differences between subscribers and honest advertisers, but if any advertiser in this paper should defraud a subscriber, we stand ready to make good the loss incurred, provided we are notified within thirty days after the transaction.

FARM AND FIRESIDE is published on the 10th and 25th of each month. Copy for advertisements should be received twenty-five days in advance of publication date. $2.00 per agate line for both editions; $1.00 per agate line for the eastern or western edition singly. Eight words to the line, fourteen lines to the inch. Width of columns 2¼ inches, length of columns two hundred lines. 5% discount for cash with order. Three lines is smallest space accepted.

FARM AND FIRESIDE

PUBLISHED BY
THE CROWELL PUBLISHING COMPANY
SPRINGFIELD, OHIO
Branch Offices: 11 East 24th Street, New York City; Tribune Building, Chicago, Illinois
Copyright, 1911, by The Crowell Publishing Company
Entered at the Post-Office at Springfield, Ohio, as Second-Class Mail Matter

A BLUE MARK

in the square below indicates that you are an old subscriber and that your subscription expires this month.

Renew by accepting one of our offers before they are withdrawn.

SUBSCRIPTION PRICE

One Year (24 numbers) 50 cents
Canadian, 1 Year . . 75 cents

Subscriptions and all editorial letters should be sent to the offices at Springfield, Ohio, and letters for the Editor should be marked "Editor."

Silver, when sent through the mails, should be carefully wrapped in cloth or strong paper so as not to wear a hole through the envelope.

Vol. XXXIV. No. 12 Springfield, Ohio, March 25, 1911 PUBLISHED SEMI-MONTHLY

The golden rule always works both ways.

A smile in time may prevent nine frowns.

A farmer may sometimes be known by his gates.

A cow cannot sing, but she knows the difference between Old Hundred and a hard boot.

When a farmer knows so much that he feels that it is a waste of time to attend the institutes or to read agricultural literature, it is about time for him to retire.

Plant a few cherry-trees just for the robins, over and above what you plant for yourself. They fight valiantly and well against your multitudinous insect enemies. They are worthy of their hire, and you should be proud of them as your retainers.

Gather up all your troubles, wrap them up well in the mantle of forgetfulness and bury them in a hole so deep that nobody ever will hear of them again. Tell your joys, your dreams, your successes from the housetop. The world wants to know about them, but it doesn't care a rap for your groanings.

The White Corpuscles in the Soil

ALL of us know about the corpuscles in the blood. "Corpuscle" means "little body." The corpuscles of the blood are little bodies floating in the veins and arteries. Some of them are red; and there are so many of these that they make the blood look red. The blood is not really red, but clear and yellowish. It is reddened by the red corpuscles, just as the water of a creek would be, if a few billions of little red fish were swimming in it.

There are also white corpuscles in the blood. The red ones don't seem to have any independent life of their own; but the white ones appear to be living animals that, having taken up their residence in the blood and liking the location, go on and multiply and replenish the body. They are very useful, too. They are simple creatures, with no mouth or other organs, and when they want a meal, they go to the thing they crave and wrap themselves about it, as you might wrap a hollow rubber ball about a hickory-nut. Having thus "swallowed" it, they digest it.

The white corpuscle eats bacteria. Every day, perhaps, each of us takes in germs of disease. These germs are little plants, small enough so that none of us will ever see one except through a powerful miscroscope Some of them are so small that no microscope has ever made them visible. The white corpuscle, being an animal, lives on plants. The bacteria, or disease germs, are just the size to make nice meals for the white corpuscles. Put a typhoid or tuberculosis or small-pox or any other germ in the blood, and one of these little animals will pounce on it and eat it up in the way just described. If the germs are not too numerous, the corpuscles will devour them all, and no disease will result. People who don't take diseases easily have a great many white corpuscles in their blood, or very active ones. The white blood corpuscle is a sort of microscopic guardian angel.

But in the soil the white corpuscles are a different breed of cats, and a horse of quite another color. We don't want bacteria in the blood, and we do want them in the soil. In the blood they make disease; in the soil they secrete nitrogen. They live in the nodules on the roots of clover, and plants of the clover tribe, and enrich the soil. All of us know about this.

We have to take the bitter with the sweet, however, and must resign ourselves to the new discovery that there are white corpuscles in the soil eating up the good bacteria, just as there are white corpuscles in the blood eating up the bad bacteria. They are called amœbæ—but they are of the same family as the white corpuscles and eat the same sort of things. If we can ever find a way to treat the soil in such a way that the amœbæ, or white corpuscles, are killed, and the bacteria left uninjured, we can grow better crops. Baking the soil will do this, but we can't bake the soil on any commercial scale. Certain chemicals will do it, too; but we can't see our way to kill the white corpuscles in that way either, without its costing more than it'll come to. Maybe some of our fertilizers help the soil by affecting the white corpuscles unfavorably. Possibly that's what lime does. We don't know much about it yet, but the future may show this to be a great and useful discovery. At present it is more interesting than useful. But so were Franklin's discoveries in electricity. Wait a hundred years. Our great-grandchildren may have the amœbæ eating out of their hands by that time.

OUR ANNUAL EASTER ISSUE

Will Appear

April 10th

In addition to the regular departments, which will contain a wealth of practical information suitable to the season, this issue will present a notable array of special features. The original and attractive cover is on a new plan. An important angle of the rural school question is discussed by experts. An absorbing serial begins.

Commencing with the Easter number the Fireside section will contain a new department of

Heart-to-Heart Talks With Women

conducted by Margaret Sangster, the most famous woman writer in America. Every month Mrs. Sangster will talk about the many different subjects which are so close to the heart of the busy housewife. Her cheerful sympathetic talk will surely prove an inspiration to Farm and Fireside readers. Mrs. Sangster needs no introduction to women of America. Her friends are legion and to them she has always brought the spirit of uplift and cheer.

The Railway Rate Decision

THE Interstate Commerce Commission has decided that the advance of railway rates all along the line cannot be made. The decision will go far to restore in the minds of the producing masses their confidence in government of, by and for the people. The thanks of farmers especially are due to the progressives in Congress, who placed in the rate law the provision that when it comes to the justice or injustice of a rate advance the railroads and not the people must bear the burden of proof. Before that law was enacted, the advance was necessarily made first and the fight afterward—and lost before it was begun.

Far be it from us to advise Mr. Morgan in this matter of getting more money for his railways, if they need it, as he says they do. Mr. Brandeis has suggested that a million dollars a day might be saved by greater efficiency in railway management; and the commission seems to think there is something in this. And if Mr. Morgan will now sell his own steel rails to his own railways for a few dollars a ton less than twenty-eight dollars—which so good a steel man as Mr. Carnegie says he could well afford to do—the railways, it would seem, would be on Easy Street.

But that is not our problem. The Interstate Commerce Commission has stood between the farmers of the country and the imposition of a real burden, and, we believe with the commission, an unjust one.

Starting a Rotation System

EVERY farmer knows that he should rotate crops. We all know that it is a sort of agricultural crime to run along haphazard and sow and plant where it is most convenient. We throw away half our work when we put in the same crop year after year, even on the richest land. And a succession of crops that embraces no legumes and is simply for convenience is only a little better.

Why do we, so many of us, go on in the old bad way when we know it to be foolish and unprofitable? Because to change over the system of cropping so as to get into a good rotation takes scheming and the adjustment of ends to means, and often some sacrifices. It is hard to rearrange the cars in a train while the train is running; and to change in cropping from lack of system to system, or from a poor system to a good one, is almost as hard.

And yet, we should all make the change who have not already done so. Every one of us who has hitherto neglected it should work out a system of rotations and make a start on it this spring. There is no possible way of starting any younger.

And in this connection no man should rest in the belief that his rotation is the best. He may find a better one by study. And, finally, there is no matter in which the advice of experts and successful farmers is more valuable than in this. Take advice and make a start.

Here's a Practical School Job

THOUSANDS of rural schools will start doing something related to the farm work this year. We may take that for granted. Not to do it will be to mark that school which omits it as behind the times. Others will look for good educational things to add to the work already under way.

To both of these we suggest that an intelligent teacher, with the aid perhaps of some educated farmer in the district, may do a fine and useful thing by beginning the testing of farm seeds in the school. Garden and meadow seeds especially are likely to be mixed with seeds of weeds and alien plants. Farmers buying seeds ordinarily are not skilled in the work of testing their purchases for purity. Let the school provide itself with one or more copies of Farmers' Bulletin No. 428 on "Testing Seeds in the Home and in the Rural Schools," which can be obtained of any senator or congressman, and start in. It will be fun. It will be a good thing in every way.

Later in the summer the weeds themselves can be brought in and studied. Perhaps methods of exterminating them will prove interesting. And if the school has one of the weed-seed cabinets mentioned not long ago in these columns, it will have a good start in a beneficial sort of farm work. Each school might well be a place where farmers could go to have such analyses made.

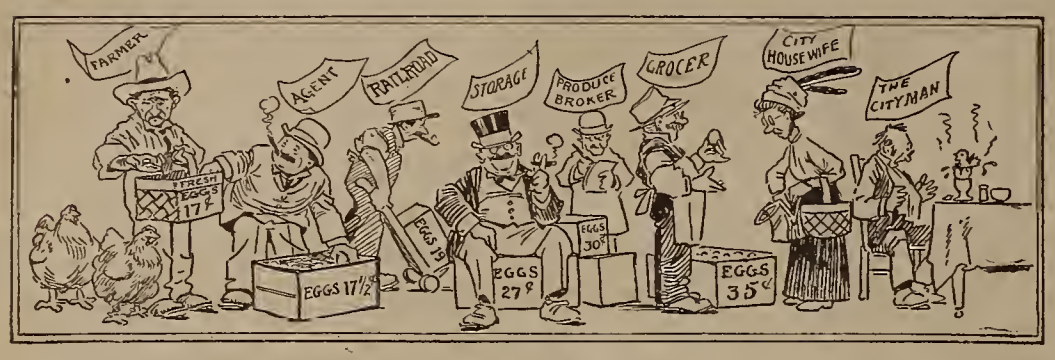
Demonstration, Not Experiment, Farms

FOUR counties in Ohio have voted to establish county experiment farms. We regret the result for two reasons. The first is that only four counties so voted. As the *National Stockman and Farmer* remarks, the others will all be behind those four. The other thing we regret is that they call them experiment farms. The county farm is no place to make experiments. It is the place to demonstrate things established at the state experiment stations. What counties need is demonstration of successes, before the "face and eyes" of the people; the experiments can be taken care of at the state station. The United States needs ten thousand demonstration farms; but it is a question as to whether we haven't about all the experiment farms we need. As a matter of fact, we believe the county farms will really be demonstration farms, not experiment farms. Then why not call them by their right names?

Your Last Chance to Subscribe at Special Prices is Given On Page 34

Coöperate With City People

A Lesson in Short-Circuited Marketing—By O. F. Sampson



A DRUMMER friend of mine told this story as we sat together at a hotel table. He had solved the poultry and egg problem for his family and friends, and naturally he was pleased with himself. He told his story from the standpoint of the city man—the consumer—but as he talked I kept thinking of the other side of it, the side of the farmer—the producer. It gave me one of those smiles that don't come off to listen to his account of his experience, as the full possibilities of the scheme opened out.

His family consists of his wife and two children, and during the high meat prices they used about two dozen eggs per week; but his wife had all kinds of trouble getting good poultry and eggs at their city grocers or dealers. His wife remembered her people used to get their potatoes from farmers, and so inquired of her husband if he ever saw poultry plants on his trips in the country. He didn't really know a poultry plant when he saw one then, but on his next trip, aided by his wife's suggestion, he looked for fresh eggs and a place to buy them direct from the poultryman. He saw several, and finally found one who kept layers of large eggs and whose birds and houses were much cleaner than the average.

This man would ship him a case every week of thirty dozen at five cents per dozen more than the price paid by the producer's local dealers—and guarantee every egg clean, fresh and of good size. He would deliver them at the drummer's city by express. The price quoted was four cents per dozen less than the wife had been paying her local dealer for eggs that were called "fresh from the farm," but that ran from three to five poor or very bad to the dozen. Taking this into consideration, the city man was getting his eggs for about ten cents less per dozen than those he had been buying.

One thing prevented the deal being closed at once. The poultryman told him eggs should not be kept over two or three weeks for table use, even in the refrigerator under favorable conditions. How could he use thirty dozen in two or three weeks?

He wrote his wife and again she helped him out. She turned "drummer," and saw her neighbors, telling them the facts. They agreed to take from a dozen to two dozen each week, and the matter was settled. To-day that group of neighbors are thinking of taking two cases per week, as every egg has been satisfactory and other neighbors want them.

I have had many poultry talks with "men of the grip," on trains and in stations, that show the way the wind blows in the case of this one food product alone. The idea is this: If drummers, whose wages are higher than the average mechanic or laborer and whose time spent at home is rarely forty-eight hours in the week, thus size up the poultry and egg situation, and save money and worry, why doesn't the same idea apply to the mechanics and laborers and their families? It does. I know of several mechanics, laborers and professional people who are arranging with either poultrymen or farm acquaintances to furnish them not only eggs and poultry, but meats, vegetables, butter and other produce.

Not only are middlemen's profits saved, but a cleaner, fresher and better article is given.

Why do not more city people arrange for such coöperation with farmers? It seems to indicate almost a lack of enterprise on their part. But, as a matter of fact, it is harder than it looks for the consumer to come to the producer. The average city man has but a very faint suspicion of where his breakfast-table eggs come from. For the ten-hour-a-day laborer or clerk, it is almost out of the question to go for a day's exploration in the country.

The first move, then, is "up to" the producer. He should have no difficulty in getting in touch with the consumers, directly, or through city friends, if his quality and prices are right. The right price is almost anything up to the city retail price for "fresh" eggs.

Quality is the point that counts most. Country people have no idea of how people in cities, especially large cities, appreciate truly fresh eggs. Of course, there are plenty of fresh or nearly fresh eggs on every city market, with which the coöperative producer must compete. His advantage lies in the fact that his customers know that his eggs are fresh. When they buy from the grocery they do not know—they hope.

The farmer must justify the confidence of his partners in coöperation, with every egg in ever case he sells. He will find it profitable to produce eggs that are more than simply fresh—eggs that are big and fine. One matter that ought to be seen to from the start is that of cleanliness in handling and packing. The more an egg is handled, in fact, be the packets and hands ever so clean, the less fresh it will be, regardless of its age. The farmer who sells direct can well carry the matter to its logical conclusion and ship in sealed packages, handling them as little as possible to start, no matter how clean his surroundings.

The surroundings of the eggs and the hens that lay them should of course be of the best, in trade like this, where so much depends on good faith between producer and consumer. Extra quality is something the consumers "have coming" as their return from the partnership.

Enemies of the Apple

A Complete Spraying Table for Mr. Orchardist's Ready Reference—By C. C. Vincent

Insects Affecting the Apple

Insect	Damage Done	How to Combat or Spray to Use	When to Spray
Aphis (green)	Causes curling of leaves. Saps vitality of trees.	To destroy eggs, use lime-sulphur (see note *a* below). To destroy adults, use tobacco-decoction (note *c*).	In early spring before buds break. In summer when aphis is at work.
Aphis (woolly)	Aërial form causes abnormal growths on twigs; attacks nursery stock. Root form causes galls on roots, sucks juice.	Destroy aërial forms same as green aphis. Tobacco-dust around roots will exterminate root form.	Same as above.
Borer (flat-headed; round-headed)	Attacks diseased and dying trees. Tunnels under bark and feeds on sap-wood of newly planted and nursery trees.	Best remedy—cut borers out. A tree-protector may be used as a preventive. Above this covering apply soft soap, carbolated, 1 pint to 10 gal. of water.	
Borer (shot)	Bores into twigs, interfering with sap-flow. Twigs wither and die.	Remove the diseased limbs.	
Canker worm (spring; fall)	Injures the foliage.	Arsenate of lead, 2 lbs.; 50 gal. water. Or place a band of fly-paper around base of tree.	When worms begin eating.
Caterpillar (red-humped; yellow-necked)	When young they feed upon the under tissues of the leaves. Later they devour all the leaf but the mid-rib.	Remove colonies by cutting off small twigs. Also jar trees to dislodge them.	
Caterpillar (tent)	Denudes branches of their leaves.	Remove and burn egg masses on young twigs in winter. Arsenate of lead in summer will destroy the caterpillars.	
Cigar-case bearer	Feeds upon leaves, buds and young fruit.	Arsenate of lead, 2 lbs.; water 50 gal.	1st, when cases are seen on buds. If very bad, 2d application a week later.
Curculio	Punctures fruit, causing deformation and dropping.	Destroy fallen fruit. Intensive cultivation recommended.	
Maggot	Eggs deposited in small apples. Maggots hatch and tunnel through pulp, causing premature ripening.	Windfalls should be gathered and destroyed.	
Moth (bud)	Attacks unfolding flower and leaf buds.	Arsenate of lead, 2 to 3 lbs.; 50 gal. water.	When buds begin to swell.
Moth (brown tail)	Feeds on opening leaves; later in summer strips the branches of leaves.	Arsenate of lead, 2 to 3 lbs.; 50 gal. water. Or burn nests or webs in fall.	When leaves begin to develop.
Moth (codling)	Makes apples wormy and unsalable.	Arsenate of lead, 2 to 3 lbs.; 50 gal. water.	1st, after petals fall. 2d, 10 days later. 3d, 8 to 9 weeks after first worms appear.
Moth (tussock)	Eats the leaves of the trees.	Arsenate of lead, 2 to 3 lbs.; 50 gal. water.	When caterpillars are working.
Rose-chafer	Destroys blossoms, leaves and fruit.	Repeated applications of arsenate of lead, 2 to 3 lbs.; 50 gal. water. Or jar chafers from trees onto sheets saturated with kerosene.	When they appear.
Scale (oyster-shell bark; scurfy bark)	Damages young trees.	Lime-sulphur, summer strength (see note *b*).	When the young appear in summer.
Scale (San Jose)	Attacks tree and fruit, saps vitality of tree and kills it.	Lime-sulphur (see note *a*).	In early spring before growth begins.

Diseases Affecting the Apple

Disease	Damage Done	How to Combat or Spray to Use	When to Spray
Bitter rot; black rot	Cankers on limbs. Also appears on half-grown and mature fruits in small brown rotten spots.	Destroy diseased fruit and cankered limbs in fall. Or use Bordeaux mixture (see note *d*).	1st, about July 1st, when disease is noticed. 2d, 20 days later. 3d, August 20th to 30th.
Crown gall	Causes abnormal growths around collar of tree. More damage done to nursery stock.	All nursery trees affected should be destroyed. No preventive remedy.	

[CONCLUDED ON PAGE 8]

Fullerton Says—

Uplift Movements in Long Island Farming— By Eugene Wood

THERE are two ways of making money out of real estate. One is to raise crops on it; the other is to raise the prices on it. Which of the two is the more beneficial to the country, and which is the more beneficial to the individual is for me to know and for you to find out.

This rather clever idea came into my head as I was planning how to tell about a visit to Experimental Farm No. 2 on Long Island, between Medford and Yaphank. (They do have such pretty names on Long Island, Yaphank and Speonk and Quogue and Patchogue and Shinnecock, and all such.) If I described what I saw growing there and how it was grown, I shouldn't be really telling the story at all; I should be dodging it. For the story is not so much that Hal B. Fullerton is raising three hundred and eighty varieties of vegetables, fruits and flowers on soil that three years ago was the God-forgottenest patch of ground you ever laid eyes on, as it is the story of why all Long Island from Montauk Point to Brooklyn bridge is not doing the same as he does. Right across that bridge, you know, is New York City, quite a good-sized town, containing more human beings to the cubic inch than you can imagine, if you've never been there, and all of them doing more or less eating every day. There's your "home market" for you that the Paynes and Aldriches of other days used to hornswoggle the farmer with, so as to make him think he could grow rich by getting less for his money.

If you were to scoot through Long Island in your touring car— Haven't got one! Why, I thought all farmers had automobiles; the newspapers say so—you would go mile after mile without seeing a house. You could even cut across country through the Hempstead Plains for fourteen miles with not a fence to stop you. Deer run wild on Long Island, not in preserves, but so that on certain days anybody can go out and take a shot at 'em. Long Island is practically a new country. The first settlements are as recent as 1630. I don't know but what "sediment" is a more accurate word than "settlement." They've kind o' sunk down and stayed right there.

With New York City setting up the Macedonian cry for food, everywhere you look on Long Island you see wastes of scrub-oak and blackened stobs of burnt-over pine, thickets of huckleberry and fern and goldenrod and all kinds of weeds, even where there are fences and inclosures and traces of human occupancy. And here comes in the clever idea about raising prices on real estate being a gainful occupation as well as raising crops on real estate. I live on Long Island, forty miles from New York City, and there's a farm near here that the man wants six hundred dollars an acre for. The soil is as rich as brick, and after a hard rain and two clear days about as easy to cultivate. You couldn't quite drive nails with a clod of it, but you could come near to doing that.

Patiently Waiting for Millionaires

YET this man, if he'll go on raising goldenrod and bitterweed long enough, will get his six hundred dollars an acre. For, every year more and more residents of New York City, wearied of its cares and anxieties, harken to the slogan, "Back to the Farm!" and go where a man can have an easy time of it. They are carpenters and bricklayers and stationary engineers and pants-pressers, and all such who, by industry and economy, have amassed millions of dollars. Some one of these is sure to buy that land at six hundred dollars an acre for a country estate and build thereon a house that, when you go past it, will make you exclaim: "Well, for the love of Mike, will you look at that!"

For it will scream "MONEY!" at you. As you go on by and turn your head to look, fascinated by the horrible vulgarity of it, the house will catch you at it and scream "MONEY!" at you. Nothing else. Just "Money!" Money talks, but it says only one thing, "Money."

That's one thing that makes Long Island so useless to its country.

Then there's the Long Island Railroad. You've heard the expression, "All the traffic will bear." So has the Long Island Railroad. Only it puts more stress on the word "all." And you've heard the expression, "A little too much is just about enough." So has the Long Island Railroad. Only that doesn't apply to its service; it applies to freight rates and passenger rates.

And there's another thing. An island is supposed to be a body of land entirely surrounded by water, unless the geography book is away off. Long Island has the Atlantic Ocean, the Sound and East River all around its edges —salt water. And it has sweet water on the under side of it, any place that you sink a well, always provided you have the money to sink the well deep enough.

But on the top side of it, especially during the growing season—Huh-uh! You can depend upon a drought coming just when it oughtn't to come; just when there is no sense in having dry weather. And it's no merely technical drought; it's the real

"Wastes of scrub-oak . . . and all kinds of weeds"

Mr. and Mrs. Fullerton taking Colonel Roosevelt and President Peters of the Long Island Railway on an auto exploring tour across Long Island

thing. Good years it's only about six weeks long; last year there wasn't enough rain to lay the dust from June 18th to October 20th. Also, with rare wisdom and foresight they have cut off all the timber that would bring in any money no matter how small the sum, and consequently there are almost no springs and brooks. No rivers at all. Being as Long Island is a gravel-bank where the melting end of a glacier dropped the pebbles and sand it had ground off the face of New England, the melted snow and rain run right through like a colander, and along toward the latter part of August the herbage is as juicy as a waste-paper basket. Long Island has water around it on all sides except the top side.

"They Hain't Noink In It"

AND still another thing. The Long Island farmer is a poor farmer. You can take that expression any way you like. You can take it to mean that he isn't scientific and you can take it to mean that he hasn't much money. You'll be about right each way. Except at each end of the island, near enough to New York to drive in, and at the end of the island where they ship their cauliflowers and potatoes by water. But elsewhere they are "poor" farmers. And whether one meaning of the word doesn't imply the other meaning of the word is another thing for me to know and for you to find out. (Ain't I the sassy thing, though?)

In New York City you have to pay to have stable manure hauled away; on Long Island you have to pay, and pay big, to have it hauled to you. Maybe that is one reason why the natives are so firmly convinced that stable manure is ruinous to the soil. It burns it up; it breeds grubs; it scatters weed-seeds—I don't know what it won't do if you are fool enough to put stable manure on your land. As they say in their quaint dialect, "They hain't noink in it." But chemical fertilizers, ah! they're all right. Yesyes. Soink into that. Yesyes. (On Long Island they can't say "Yes," it's always "Yesyes.") Well, to make a long story short, as any old gas-bag will say, I will say that on Long Island they still cut grain with a cradle. Now do you understand the situation?

In some parts of the country, if you are looking for trouble, all you've got to do is to say "Booker Washington" and you can be accommodated immediately. So on Long Island, all you've got to do is to say, "Hal B. Fullerton," and the curtain goes up on the first act without more ado. For Experimental Farm No. 1, on the north side of the island, and Experimental Farm No. 2, on the south side of the island, are not governmental institutions, but Long Island Railroad institutions.

I can see why the Long Island Railroad (which means the Pennsylvania Railroad) backed these experimental farms and told Hal B. Fullerton to go ahead, pick out the "on'riest" pieces of ground he could find and show what he could do. Because, you know, Long Island is not all desirable shore-front property worth its weight in gold; it isn't all suitable for country estates for those people whose notion of the joy of life is to go seventy miles an hour in an automobile, running over dogs for the fun of hearing them pop. There are no big cities back on the island, no great industrial plants with a lot of freight to haul going and coming. And, since there are people who still believe in "the peasant farmer," who think that if a man has a patch of ground as big as a bedspread, he can make a good living off it, support a family and send six sons to Yale to study foot-ball, if he is industrious and not afraid to work twenty-five or twenty-six hours a day—since there are still people who believe that in this age of combined capital a man can go out into the scrub with a hoe and a horse and $38.52 in cash, and no credit, and win out, why, why not do something with that superstition? If enough of these farmers would settle in Long Island and ship truck to New York and manure out of New York at present rates, why, it wouldn't be long before the Long Island Railroad could actually pay dividends on the common stock! It looks like a wild statement, but I believe it could be done.

But whatever the prompting cause for putting Hal B. Fullerton on the job of making the wilderness blossom like the rose, he has certainly done the blossoming act right up to the handle. It's wonderful. That's right. It's wonderful. You ride along the railroad and you look out on a forlorn jungle, and just to look at it makes black-and-blue marks come on your stomach where the plow would kick pulling through those roots tough as a rope. The top soil is white sand mixed with charred bits of twig. Where the wagon-wheels have cut through the dirt is about the color of corn-meal. And when the conductor yanks the bell-cord and lets you off to visit Experimental Farm No. 2, it looks like the frazzled-out end of no place.

His Private Rain Supply

BUT he's got three hundred and eighty varieties of vegetables, fruits and flowers growing there as pretty as you please.

"Yes, and it costs him a dollar apiece for every ear of corn," asserts the native.

Fullerton says, "Oh, pshaw!" when you tell him that. I think it was, "Oh pshaw!" Maybe it was "Oh" something else. I won't be certain.

I'll tell you what he's done. Realizing that truck crops require moisture and that the rain that falls during the growing season is too skimpy and too chancey, he has abandoned the hope of getting enough water on the top side, and has gone to the bottom side and driven a well down to where there is an endless supply; he has built a five-thousand-gallon tank and installed a pumping engine. Thus there is water piped into the house—Fullerton says that the bath-tub is a paying investment, too—water for the cows and chickens and, most important of all, water for the crops. Fifty feet apart are rows of boards in the ground, say, three feet high. Held on them by two wire nails bent is a pipe. Every four feet in that pipe is a hole, cut and threaded by the same operation, and in that hole a brass nipple which squirts a stream of water as big as a knitting-needle twenty-five feet. You can turn the pipe so that the sprinkler shoots straight up into the air and waters near-by plants, or you can turn it more flat-like to wet the farther ones. This is a good imitation of rain. An hour and a half of it is as good as a satisfactory shower and doesn't clod up the ground.

Does it pay?

Fullerton says it does. Fullerton says you can profitably spend up to six hundred dollars an acre on a watering proposition for truck crops. Two plats of alfalfa; same treatment as to fertilizing and preparation; one watered, the other not. Five cuttings from the watered—three from the unwatered. By the way, he makes a sort of chimney of chicken-wire and two saplings; piles his alfalfa-hay about that—on a platform—covers it with canvas and says that's the best way he's so far found for keeping alfalfa.

[CONCLUDED ON PAGE 22]

"Three hundred and eighty varieties . . . on soil that three years ago was the God-forgottenest patch of ground you ever laid eyes on"

The Headwork Shop

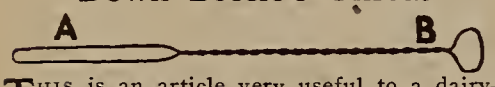
Codling-Moth and Curculio Trap

TAKE two pine boards, one foot wide and two feet long, and wire or hinge them together so as to open like a book. Line both boards inside with pieces of Canton flannel. Have them come near together when closed, but leave space enough for the insects to crawl in for shelter. Hang these traps near the ground, on the tree. On cool nights the insects will seek shelter in these. Remove them in the morning, close them tightly to prevent any insects escaping. J. H. HAYNES.

Corn-Sheller From the Laundry

WE FIND this a cheap and easy way to shell corn. Set a washboard into a tub or other wide vessel with sides a foot or two high. Rub the ear of corn up and down the washboard, holding the ear lengthwise of the washboard, and the corn will drop like sixty. One person can shell twenty to twenty-five bushels a day. We do this at odd times every winter. ALEX ZAILER.

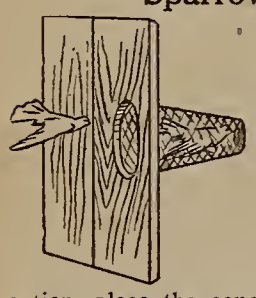
Down Bossie's Throat



THIS is an article very useful to a dairyman, for it may save a valuable animal from choking on a piece of apple, potato or the like. Take a piece of wire eight feet long and bend to form a smooth loop (A) about ten inches long and one and one half inches wide; then twist the strands of wire together and make a smaller loop (B) at the other end for a handle.

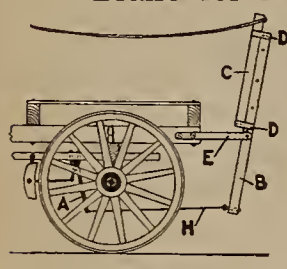
To use, grease the loop (A) and slip past the obstruction in the throat, then pull it out, and the piece will nearly always come with it. HOWARD W. FOSTER.

Sparrow Trap



FASTEN a cone or funnel made of window screening at one end of a small building where the birds are frequent visitors. Make the hole in the gable end a week or so before you place the cone. When the birds get the habit of going in at their own option, place the cone. They will keep on going in, but when they want to go out they find themselves prisoners. NOLA BENTON.

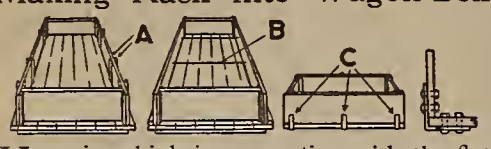
Brake for Hay-Rack



THIS brake is designed more especially for use on hay and straw racks. Make levers (B and C) out of strong two-by-three timber, B being six feet long and C being four and one half feet long. Get two small stirrups (DD), bolting the top one to B and bottom one to C. A pair of strong iron bands (E) of equal length are bolted to hay rigging and onto both sides of B. At lower end of B an eye-bolt runs through, to connect rod (H) with eye-bolt in lever (A).

The brake itself is of the ordinary type, except that lever (A) turns down instead of up. When there is a high load on, the lever (C) can be slid up in the stirrups so it reaches above the load, a spike being put through one of the holes in B. There is a rope at top of C, reaching to the driver's seat. F. W. P.

Making Rack Into Wagon-Box



HERE is a kink in connection with the flat rack, sometimes called "set of ladders," now generally used with low-down handy wagons. It is a heavy job to lift off the rack and put on a wagon-box when you want to haul ear-corn. So we simply build a wagon-box on the flat rack, which serves as the bottom of the box. We set up a long board at each side of rack, held in place as described below. These boards have a pair of cleats near each end, between which we slip the end boards of the wagon-box. About one quarter of the way along each side board we can have another pair of cleats, not shown in the sketches, into which we slip another cross-board to make two sections in the wagon-box when sorting out seed-corn from feeding-corn in the field.

There are three good ways to hold the side boards on the rack. You can set stakes (as AA in sketch at left, showing end view of rack) up on both sides of the boards, stakes going into holes bored in pairs near edges of rack, or you can have one-by-one strips nailed along the edges of the rack; set the side boards up inside these strips, put the cross-boards in place in cleats, then use three iron rods (as B) such as are used across wagon-boxes with nuts on ends to hold the side boards firmly together—the same kind of rods as are used across wagon-boxes. This plan is shown in middle section of sketch.

The third way, which I like best, is to have two or three L-sbaped irons (CCC) permanently bolted to the side boards (see section of sketch to right of middle—side view of box). The shank of the L is bolted to the side board, so that the bottom of the L comes about an inch lower than the bottom edge of the board, so that side board sits on top of boards or rack, while the shanks of the L-irons slip underneath, as shown in cross section of side and bottom boards at right of sketch. The irons are then bolted up through the boards of the rack.

This box can be left on the rack when hauling fodder. J. C. BEALL.

Collar for Ax-Handle

AX-HANDLES are often ruined when nearly new by coming in contact with the wood or log being split, in such a way that the handle is bruised and splintered just below the ax-head. Cut a strip out of heavy leather or the top of a rubber boot, about two and a half inches wide and long enough to reach around the handle, and fasten it in place as shown in the sketch, using carpet-tacks. When the collar wears out, replace it with a new piece. You'll find this little job pays. W. C. W.

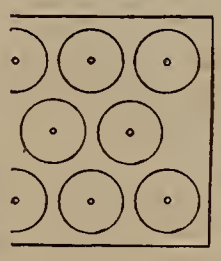
Windlass Power on Wagon Nut

TO LOOSEN a tight nut on a wagon, fasten the wrench-handle to one of the spokes of the wheel with a strong piece of stay chain. Now turn the wheel the way that will loosen the nut and the work is done. Simple, but muscle-saving. M. H. G.

To Give Tablets to a Cow

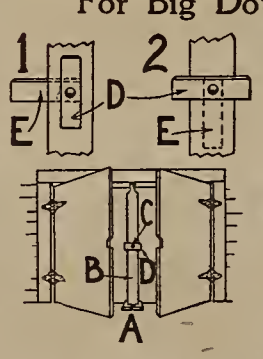
I HAD a sick cow last fall and the veterinary gave me some tablets to mash up and feed to her in chop or bran. But she would eat neither the chop nor bran. So I took an ear of corn, broke out one grain, put the tablet in the space, and fed her the corn, holding uppermost the side with the tablet in it. MARGARET K. RAILEY.

Practical Seed-Tester



TAKE an inch board that will fit into a shallow roasting-pan. Rule it and bore as many holes as you can by using an inch auger, being very careful not to let auger go clear through; only far enough, so screw on the end of auger makes a small hole on bottom of board. The sketch shows one end of a small board thus treated. Now number the holes and take five kernels from first ear and place in hole number one, then five from second ear, and so on, until holes are all filled. Now place board in the pan and pour in lukewarm water until water fills each hole about two thirds full. Set it away for twenty-four hours, then lift board out carefully and pour out remaining water in the pan. Replace board and cover with damp cloth. Put under stove, and after three days you can read the result. Mark the number of the strong germinating kernels, then go where you have previously arranged and numbered the ears. Use the best ones for seed and discard the rest. C. C. MCCLEARY.

For Big Double Doors

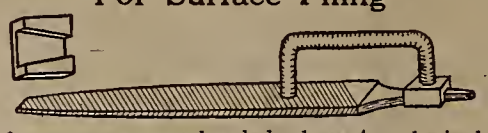


IT IS hard to fasten firmly a pair of large swing doors. This device fills the bill. In the middle of the doorway, just under the place where the doors come together, set flush with the ground a post or concrete block (A) with a hole in it. Shave down one end of a two-by-four (B) round and small enough to fit into hole in block. This two-by-four should be tall enough to reach three or four inches higher than the sill at top of door. Shave top of two-by-four down round and make hole in middle of the top sill to receive it. Slip top of two-by-four into top sill and set bottom into hole in block.

About half-way up the two-by-four bore a hole through it, and insert a stout wooden pin (C) long enough so about two and a half inches protrude at front of two-by-four and an inch and a half behind. On front end of pin (C) fasten a crosspiece (D) about five inches long and an inch thick. On other end fasten a tongue (E) about eight inches long, at right angles to D.

Cut a notch about an inch deep in the edge of each door, as in sketch. If you want to fasten the door from the inside, pull halves of door shut, holding tongue (E) up horizontal, so that cross-piece (D) is brought straight up and down, as in small diagram 1 at top of sketch. When doors are in place, let tongue drop down, bringing cross-piece horizontal so it catches edges of doors (2, top of sketch). Have tongue light enough so you can turn this latch from outside, if that is desired. ELIJAH WARNER.

For Surface Filing

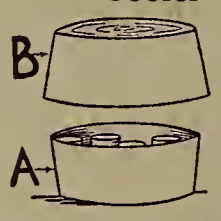


AN OLD square-headed three-fourths-inch bolt—a larger size will do—about ten or twelve inches long, is bent as shown in illustration. The first bend is made about two inches below the head, the second bend about five inches below the first, or far enough below to give room for a hand grasp, the end at this second bend being brought back in line and parallel with the body of the bolt just below the head. The top of the head is cut out with hack-saw and chisel, as shown at left, above, so as to fit over the handle point of the file, and the end of the bolt should be just long enough to sit firmly upon the body of the file midway between its two edges. FRANK H. MARK.

Over Your Boot-Tops

HERE is a very good way to keep water from getting in your rubber boots when you are working where there is considerable water. Just paint your overalls with coal-tar from the bottom to a point six or eight inches above the tops of your boots, overalls to be worn on the outside of boots and the bottoms tied down tight with a cord. D. CONGER.

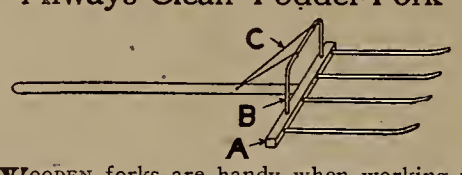
Cooler Without Ice



HERE is a simple but sure way of keeping milk and butter cool during the summer months. It is made of two tin or zinc tubs. Stand the smaller tub (A) on a flat rock, in a cool shady place. Pour cold water into it to the depth of three or four inches. Set the jars or containers of milk and butter in the water. Now take the second tub, which must be a little larger than the first, and slip it down bottom side up over the first tub. The top tub must go down so that it will completely cover the bottom tub and its contents.

We have been using one of these outfits successfully for several seasons. It also keeps out the rain and trash of all kinds. The water must be changed frequently to keep it pure. A. WOODWARD.

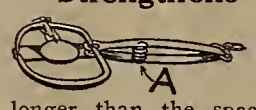
Always-Clean Fodder-Fork



WOODEN forks are handy when working in fodder, for if the points are made smooth the prongs will not pierce the stalks, but will stay clean. Mine is made as follows: Head piece (A) is a solid two-by-two piece of elm, eighteen inches long. Bore in this four three-fourths-inch holes for prongs, also a hole for handle and two half-inch holes for a bail (B). This stands up at right angles to the handle in the way shown in the sketch, and can be made from any tough wood shaved and bent. Bore a small hole in handle and two in the bail for No. 9 wire for brace (C). The prongs are eighteen to twenty inches long tapered down, and curving up a couple of inches.

EVERETT PENQUITE.

Strengthens Weak Traps

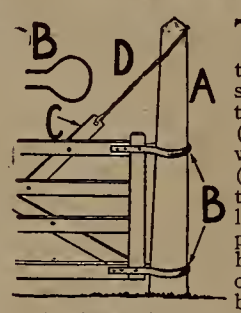


TO STRENGTHEN worn-out or weak steel traps, insert a coiled spring, a little longer than the space between the upper and lower parts of spring of trap, and place it as indicated in sketch (at A), pusbing ends of coiled spring over the spring of trap, so as to hold it firmly in place. E. STEPHENSON.

Besting the Balky Base-Burner

THE next time you get up in the morning and find the fire out in your base-burner, don't call the stove names. Just get an inch board wide enough to cover the bottom of the magazine and shove it under the magazine, letting the ends rest on the edge of the fire-pot. Be sure that the board is short enough so that you can close the doors of the stove. Then shake out the ashes from the fire-pot, put in kindling and light. When fire is well started add a little coal, then let it go. As it burns the edges off the board the coal in the magazine will drop down on the fire gradually. This saves emptying the magazine. G. A. KIRTLAND.

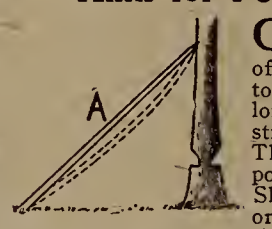
This Gate Shuts Itself



THE post (A) is about three feet taller than the gate and is round, smooth and slightly tapering. The hinges (BB) are made of old wagon-tires, as shown (enlarged) above, so that the circle of them is a little larger than the post. The ends of the hinges lap on each side of the gate and are bolted through.

A piece of two-by-three two feet long (C) is bolted on the gate. A chain (D) is fastened to the top of C with a clevis, and runs up to the top and around behind the post where it is fastened with a large screw. When the gate is open the chain wraps around the post and raises the gate. The weight of the gate always brings it shut again. B. F. REINHART.

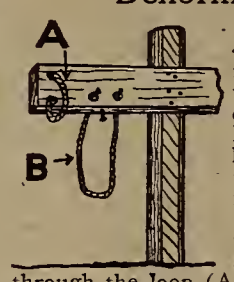
Kink for Felling Trees



CUT a straight sapling (A), preferably of hard wood, eighteen to twenty-four feet long, according to the stiffness of the stick. The longer has more power if stiff enough. Sharpen the thin end or insert a spike, so that it will dig into the bark of a tree. Then jab the butt end into the ground on the side of the tree from which you want to push, about as far from the stump as the tip of your pole is from the ground.

Then engage the sharp end against the bark and pull down on the pole at A, so as to bend it as shown by the dotted lines. Leave it bent and chop till you think the tree should fall, then push up a little on the pole at A and it will straighten, pushing the tree. Before the tree can get its back-swing, bend the pole down again quickly, and straighten. If the pole is heavy enough, and has the proper stiffness, its power is tremendous when thus used. JOHN J. KADLETZ.

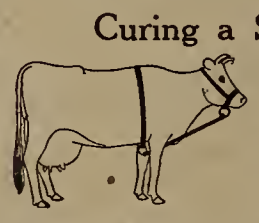
Dehorning Device



A TWO-INCH plank eight or ten inches wide is nailed to a post or doorway at about the height of the animal's head. Four one-inch auger holes are bored as shown, through which three-fourths-inch ropes are drawn. The animal is led up alongside the plank and halter rope inserted through the loop (A), bringing the nose into the loop. At the same instant the rope (B) is thrown around the neck and over the plank where the loop is caught by a spike, which is thrust into a hole in the lower edge of the plank.

Another spike or stick is then inserted on back of plank into loop (A) which is around the nose, and loop drawn tight. The animal may then struggle and assume almost any position without injury. We have held the strongest animals and as soon as the horns were off they were loosened in an instant without any entangling of ropes and halter. GEO. W. BROWN.

Curing a Self-Sucker



WE USED the following device with success to cure a Jersey of the habit of sucking herself. We placed a leather halter on the cow and a leather surcingle around the body just back of the forelegs. To the surcingle a ring was attached and connected with ring under jaw on the halter by an iron rod (hickory stick would do). The cow could graze, but could not get her head around to her side. We kept this rigging on our cow two years and then removed rod and belt, leaving halter on. She had apparently forgotten the habit and never repeated it. MRS. J. T. BURTON.

A Killing-Time Help

BACK up a wagon truck to the platform on which the hogs are scalded. Place a two-by-six or a fence-post (A) across rear wheels so that each end will extend over about eighteen to twenty inches on both sides, and tie it down to each wheel. Put a rail through spokes of wheels to keep wagon from moving. Then take a strong pole with a notch (B) in the thick end, lay it across the post (A), lift up on other end and fasten on hog at B. Bear down, catch end of pole under hub of front wheel and your hog is hung. F. TOMHAVE.

To Headworkers

THREE prizes of five dollars each are awarded for the three best contributions in each number of the Headwork Shop. The award is made by post-card vote, each subscription to FARM AND FIRESIDE carrying with it the right to vote for the three knacks the voter thinks most valuable each issue. Votes are counted two weeks from date of issue. All other contributions used in this department are paid for at our regular rates. Where two persons send in the same or nearly the same idea, the contribution that is the neater and more clearly expressed will be given the preference.

Contributions should be written in ink on one side of the paper and accompanied by ink or pencil sketch where a sketch is needed to bring out the idea. We suggest that contributors retain a duplicate copy, as no manuscripts will be returned. The mail is so heavy that it is impossible for us to acknowledge receipt of manuscripts. Address Headwork Shop, Care FARM AND FIRESIDE, Springfield, Ohio.

Headwork Winners Feb. 10th

A. E. Vandervort - - - Hen-Classifying Nest
J. W. Foster - - - - - For Early Birds
J. H. Haynes - - - Kill Mites Like Moths

Corn Talk

Mixed Seed-Corn Again

LAST spring I read with great interest the articles by Mr. Evans and others about mixed seed-corn. My experience while growing corn in Kansas and Oklahoma convinced me that mixed seed-corn may be used to advantage, in that region at least.

All farmers in those states realize that the retaining of soil moisture throughout the growing period of the corn crop is a peculiarly difficult problem. Subsoiling, dust-mulch and other methods of culture are of great assistance in conserving soil moisture. But it occurred to me that it should be possible to solve the problem, in part at least, by selecting seed-corn that would be better adapted to droughty climatic conditions and make corn-growers more certain of a fair yield each year without dependence on a large amount of rainfall just at the right time during the growing season, in order to mature a fair crop of corn. I wondered if, by mixing different varieties of seed-corn, I could not produce this desirable type.

I wrote to several experiment stations about this, but not one of them had, at that time, conducted experiments along that line. So I will be compelled to stick close to my own experience and that of some of my acquaintances who have been investigating along similar lines as myself. I wish to say frankly that I am not an expert corn-breeder and that I am going to present this matter entirely as it presents itself to me, regardless of the way scientific corn-breeders look at it.

Breeding Corn to Beat the Weather

In the middle counties of Kansas and Oklahoma there are few years but what there is sufficient rainfall to mature a fair crop of early corn or late corn, although there are very few years when both early-planted and late-planted corn make good yields. The hot dry spell that is sure to come every summer, followed by heavy dashing rains, comes just at a time when one or the other—either the early-planted or the late-planted corn—is in great need of moisture. Either one or the other is thus likely to be injured, depending on the time the dry spell comes. How to meet the peculiar climate of this country and prolong the breeding or fertilizing season of the corn, was the question that I was trying to work out, by selecting seed that would produce corn that would not all be dependent upon moisture at the same time and be more certain to produce a uniform crop equally distributed over the whole field. I also wanted to get corn that would develop so as to prevent the pollen all being washed off at any one time by the hard dashing rain which the country is noted for.

I am convinced that the work I started while living in that country would partly solve this question, for I grew crops that were much above the average in yield every year, when many failed who make a practice of planting one variety of seed.

I reasoned that if I secured the best seed I could not lose out through poor seed, and that if I planted more than one kind it would not be all dependent upon moisture at the same time and that I would be more certain to have an average crop equally distributed over the whole field, instead of sixty bushels on one acre and ten on another.

The Cross-Bred Corn Did Well

After taking these points into consideration, I sent to reliable seedsmen for one peck each of Iowa Silver Mine, Clark's Early Mastadon, Reid's Yellow Dent and Pride of the North and mixed these four varieties and planted in check rows at the rate of four quarts to the acre. This field produced about fourteen bushels more corn per acre than the Reid's Yellow Dent alone and about six bushels less than the Clark's Early Mastadon. The year's results convinced me that I was on the right track and I would have looked for a larger yield from the mixed seed had it not been for the fact that it came from Illinois and was not acclimated to Kansas.

The next year I selected seed from the mixed seed and added one part each of Bloody Butcher and Riley's Favorite in order to maintain the strength and vigor of the seed by the use of an infusion of fresh seed. This field made an average of about eighteen bushels more corn per acre than the Clark's Early Mastadon and about two bushels less than the Reid's Yellow Dent. This result convinced me that mixing the seed made no decrease in the corn yield if I made proper selection, but I realized that if I held in subjection the tendency to produce corn that would ripen all at the same time it would be necessary to add some seed of a standard variety of late corn and some of an early corn, so the following year I added some Iowa Silver Mine and Pride of the North and the mixture produced eight bushels more corn than any other I raised. The next year, my last year in Kansas, I planted all of my corn from the mixed seed, adding one part each of Iowa Silver Mine and an early white variety that I can't recall the name of, and it made a very good crop on upland soil, but the season was very favorable for corn in that section of the state.

I like to see seed-corn all of one variety and uniform and take pride in selecting good seed, but when we face peculiar climatic conditions and hot winds and dry weather I believe that we can afford to sacrifice color and uniformity for quality and quantity.

Understand that I am not advocating this practice in a country where an abundant rainfall is certain, but I am speaking of the conditions in a section of the country that is the dividing line between the Great American Desert and the agricultural lands.

I am sure that every man who is facing the uncertainties of maturing a crop of corn in these sections will be interested in any work that the agricultural colleges or experimental farms may do to assist them in this matter of obtaining a kind of seed that will be better adapted to meet the climatic conditions there.

While I know that some corn experts will say that my ideas are ridiculous and unreasonable, yet I am confident that it is a matter worthy of their consideration, and if any of them have conducted field experiments along lines more practical, I shall be very glad to have my plan and methods criticized.

W. MILTON KELLY.

The Middle is the Best

THE accompanying illustration shows the relative shape and size of kernels of corn shelled from the tip, the middle and butt of the average ear. Obviously a mixture of such kernels will be dropped unevenly by a seeder and not give as satisfactory results as will kernels of uniform size. This picture,

then, shows graphically the need of grading seed-corn before putting it in the seeder.

Practice has shown that kernels shelled from the middle of the ear, besides being uniform in size, produce the best corn-plants. Hence, in preparing seed-corn for planting, it is a good scheme to first remove the kernels at the tips and butts and use only the middle third of the ear for seeding purposes.

How He Handled His Acre

KARL WARNER, the fourteen-year-old winner at the Clarinda (Iowa) Junior Corn Show, has consented to tell FARM AND FIRESIDE readers just how he grew on his acre of ground the ninety-three and a fraction bushels of corn that won for him first prize. Thorough preparation of the seed-bed and plenty of cultivation contributed largely to his success, since the reader will observe that no fertilizer was used—but let Mr. Warner tell his own story.

The acre of corn that won the acre yield prize of fifty dollars at the Clarinda Junior Corn Show was planted May 25, 1910, on ground that was spring-plowed. For a few years previous it had been in pasture and clover sod. The soil was a black loam, very rich, but had received no manure or fertilizer. Both ends of this plot were formerly slough, rich from the wash from higher ground. They had never been farmed because of too much moisture, but after tiling, these ends made fine corn ground.

The middle ran over a knoll where the corn fired because the soil was lighter, and as the summer was very hot and dry the yield was reduced. This plot was plowed as soon as the frost went out of the ground; we plowed to a good depth, and harrowed after every rain. A few days before planting it was gone over with a disk harrow, lapping half so as to leave the surface even, then harrowed and cross-harrowed.

My father has Reid's Yellow Dent corn. Part of his seed-corn was picked before the frost, but most of it was sorted out of the wagon when unloading at husking-time. Of this seed-corn I got permission to select thirty ears. I took what I thought was the very best. These I tested in a test-box, taking six kernels from each ear, but less than half of it grew. I then took one kernel from each ear and planted it out in the garden and all of it grew. Father said the corn was all right, he knew it would grow, so I planted it.

Cultivation Pointers

I intended to plant on the 20th of May, but as it rained then I had to wait while some tile was being put in so it was a little late when I planted. The planter was set to drop single kernels nine inches apart, the rows being three feet and six inches apart and running north and south.

Before the corn came up, the ground was harrowed twice. The first cultivating was done with a sharp four-shovel walking cultivator. The next time I used the same cultivator with six small shovels.

By changing to three small shovels on each side, the ground will not be stirred so deeply, but more of the surface pulverized. If I had used the four shovels they would much of the time have followed in the furrow made by the first cultivating though cutting a little deeper. This I did not wish to do. In laying by the corn, I changed the cultivator back to the gangs with two shovels on each side, but took off the big shovels and put on gopher blades. These blades cut only an inch or two deep, leaving the surface almost level and covered with a dust mulch. The corn was by this time so large that some stalks were broken when they passed under the arch. Being very thick, averaging almost four stalks to the hill, the stand shaded the ground so that very few weeds came up. I did no hoeing or weeding.

At harvesting-time the vice-president of the farmers' institute for our township appointed two men who were to measure the ground, oversee the husking and weigh the corn; this was done November 21, 1910. It weighed 6,555 pounds, and at seventy pounds to the bushel made ninety-three bushels and forty-five pounds. KARL WARNER.

Test, Brothers, Test

CORN-GROWERS, here are some nuggets of advice from a man who knows. One of the best-known seedsmen in the country, who makes a specialty of testing the seed-corn he sells, recently sounded this warning in a personal letter to the editor of FARM AND FIRESIDE:

You ought to impress on the minds of the farmers through your paper or any way you can that the seed-corn is not anywhere near as good this year as most people believe. There seems to be a general impression that everything will grow this year and it is not necessary to test anything. While it is true that the corn is fairly good and, in fact, is better than last year it is not perfect by any means.

We have tested over 105,000 single ears of corn in the last month, and find that even in pretty good-looking corn about twenty per cent. of it has to be thrown out. It was either dead or crippled.

Another point you ought to impress on them is that it is not enough to throw out the dead corn, but the weak corn also must be thrown out. A crippled grain of corn is really worse than a dead one. It will make a weak, good-for-nothing stalk which takes up room in the field, takes up moisture, fertility and sunshine and will not make an ear or at best will only make a nubbin. It would be better to have the hill entirely vacant than taken up with a stalk like that.

Urge the farmers by all means to test every bit of corn they plant.

A Trick of Nature

A MARYLAND friend of FARM AND FIRESIDE, Mr. Noah A. Edmondson, says of this curious tree: "It is known as the Old Bent Oak and stands on the farm of Mr. John Schneider about eight miles south of Westminster in this state. The tree is more than a hundred years old, so the oldest inhabitants state."

Are any others of FARM AND FIRESIDE's big family living in neighborhoods that boast natural rural curiosities? We should be glad to receive photographs of them and, if we could use them, to pay for them. We will have to rule out the nationally famous ones. But we would like to see pictures of curiosities which, like this one, have only a local celebrity, but deserve general interest. Remember that, to make good printed reproductions, photographs must be extra clear-cut. Gloss-finish photographic prints are preferred.

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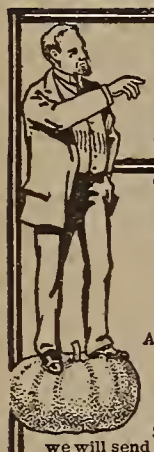

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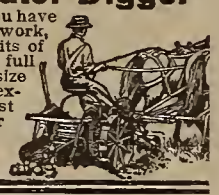

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Fruit-Growing

A New Strawberry Culture

WHAT I give here is not theory, but represents my own experience with an experimental field of strawberries on my place. I have obtained some of the finest, largest berries by this method that I have ever had the pleasure to see and eat.

Some years since, an ordinary tin milk-strainer got in among my vines and was unnoticed at the time, but observed later when cutting off runners. The sieve covering the hole in its bottom had been torn off and the basin, or bowl, of the strainer was inverted, the larger opening, or rim, resting upon the ground, while through the smaller opening a runner plant had found access and taken root in the soil beneath. The weather was very dry at the time and the greater portion of the plants showed unmistakable signs of drouth, but the plant growing up through the strainer was much taller, larger and thriftier in every way than its neighbors and green as a leek.

This suggested a thought which I at once put into execution. Having part of a roll of sheathing-paper at hand, I cut it lengthwise in the center, making two strips, each eighteen inches wide and about forty feet long. I then took my shears and, at intervals of eighteen inches along one edge of each strip, cut semi-circular openings three inches across and corresponding, so that when the strips were again placed edge to edge the openings formed complete circles three inches in diameter, through the center of the strip or completed sheet. I then transplanted a number of good plants on an adjoining clean strip of ground eighteen inches apart, conforming to the holes in the paper, and at once pushed each strip, separately, up to the newly-set row from either side and pinned them securely to the ground with wire pins I had previously made. These were about eight inches long with a loop in one end to serve as a head.

Berries Fatten, Weeds Wilt

The weather continued dry, the plants so treated stayed fresh and green and by cold weather they were taller, broader, better plants in every way than any of the others in the field. The next season, these plants were literally loaded with the finest, largest berries imaginable. The paper, although rumpled somewhat by the weather, was still intact and free from dirt on its upper surface, thus forming a perfect protection to the berries from any dirt whatsoever. It also acted as a most excellent mulch, as the soil underneath, even in driest summer, was always found cool, moist and loose, although within four or five inches of the outer edges of the paper the ground was dry for several inches down. Except for a few in the circles, which were easily removed, no weeds grew, nor could they, with the heavy paper mulch.

I claim for this method that after the ground has been carefully prepared and set to plants, a minimum amount of tending is required. I leave an open strip of ground eighteen inches wide between the strips of paper so that the plant rows are about fifty-four inches apart. This narrow strip of ground is all that requires cultivation, and once through with the five-tooth walking cultivator a couple of times a week in the growing season is sufficient.

I have since made other experiments to provide for the runner plants by making additional holes at suitable distances in lines in the paper parallel to the original row of plants and find I have to a great extent solved the problem of runner plants being spaced the proper distance apart, for by making holes for these extra plants to set in, I get them where I want them without subsequent setting or thinning, the only work being to trim off superfluous plants after the additional holes have all been supplied with young plants. I am making tests to find more durable paper, and tests, also, for the proper colors, as I find the darker shades of paper attract more heat in the cool earlier season than lighter kinds. I have also made tests with concentrated commercial fertilizers by soaking the paper to be used with them, then thoroughly drying it, so that when put down, the rain would leach much additional fertility to the roots of the growing plants. This plan also has proved itself of real benefit.

Being only in moderate circumstances on a small farm I have necessarily been compelled to work on a rather small scale. Nevertheless, what I have already accomplished has convinced me that strawberry and other fruit culture can be made cheaper and better by this method than by any existing culture practised. G. A. RANDALL.

Burying Berry Trouble

AFTER the black-raspberry bush gets three or four years old, the wind sways it badly and much wood is broken from the base of the plant. It is observed also that right at the surface of the ground a large knot or bulb forms on the plant and that all new wood grows from above this enlargement.

To obviate this swaying and loss of canes we plant the young tip in the bottom of a furrow about three or four inches below the surface, and as the plants grow we gradually fill in during the season so that by fall we have a level surface around the plant with the union of wood and root below the ground. The new wood comes from below the surface each year and if after several years the plant should show signs of sprouting higher up we throw a slight ridge along the row of plants.

No winds will affect such plants and they can be of service for many years. Ordinarily, in windy sections, a patch is ruined in three or four years. We run the furrow with an ordinary one-horse shovel plow and set the plants in the bottom of the furrow. This applies to all the tip varieties—black or purple. J. H. HAYNES.

A Connecticut reader has a pear-tree, the fruit of which cracks before ripening. This is probably scab fungus. Spray with Bordeaux mixture or, better yet, with lime-sulphur solution, just before the blossoms open and just after petals fall, and again about two weeks after the blossoms fall. Better add arsenate of lead or Paris green to the mixture and get the codling-moth and other pests at the same shot.

Enemies of the Apple

[CONTINUED FROM PAGE 4]

Fire blight	Attacks blossoms or tender growing tips and kills entire season's growth.	Cut out all affected limbs. Disinfect tools before making a cut with 1 part corrosive sublimate, 1,000 parts water.	
Fruit spot	Small spots or specks appear just under skin of apple.	Bordeaux mixture (note *d*). Or commercial lime-sulphur, 1 gal. to 30 gal. water.	1st, when petals fall. 2d, 3 weeks later.
Leaf blotch	Attacks foliage, causing brownish-white spots.	Bordeaux mixture (note *d*).	Same time as for bitter rot.
Leaf spot	Works on the leaves, producing numerous dead spots of a grayish color.	Bordeaux mixture (note *d*) or commercial lime-sulphur, 1½ gal. to 30 gal. water.	1st, just before flower buds open. 2d and 3d, at intervals of two weeks.
Scab (see note *e*)	Attacks leaf and apple. Appears on the apple in small, scabby, olive-black patches.	Commercial lime-sulphur, 1½ gal. to 50 gal. water. Or Bordeaux mixture.	1st, before blossoms open. 2d, when petals fall. 3d, 3 to 4 weeks later. 4th, 10 weeks after petals fall.

a—Lime-sulphur: 15 lbs. lime, 15 lbs. flowers of sulphur, 50 gal. water. Slake lime in kettle to a paste, dilute to a thin whitewash, stir in the sulphur and boil one hour, adding water as it boils down. Dilute to fifty gallons, bring to boil again, strain hot through screen and apply hot. This solution does not keep. Concentrated commercial lime-sulphur can be bought, which keeps until diluted for use. Home-made concentrated lime-sulphur can be made by several formulæ, one of which is: 38-40 lbs. lime, 40 lbs. sulphur, 50 gal. water. Boil forty-five minutes, strain and seal up in barrel until ready to dilute for use. Dilutions are based on strength as determined by hydrometer.

b—Lime-sulphur, summer strength: 8 lbs. lime, 8 lbs. sulphur, 50 gal. water. Make as directed under *a*, first formula.

c—Tobacco decoction: 1 lb. tobacco stems to 2 gal. water; boil.

d—Bordeaux mixture: 5 lbs. copper sulphate, 5 lbs. quicklime (not slaked), 50 gal. water. Dissolve copper sulphate. Slake lime in separate vessel and strain out big lumps. Pour the two together, mix well, dilute to 50 gal. Use it same day. Don't use iron or tin vessels for mixing.

e—A treatment of this kind, when arsenate of lead (2 lbs.) is added to the lime-sulphur or Bordeaux mixture, will control scab, codling-moth and leaf spot.

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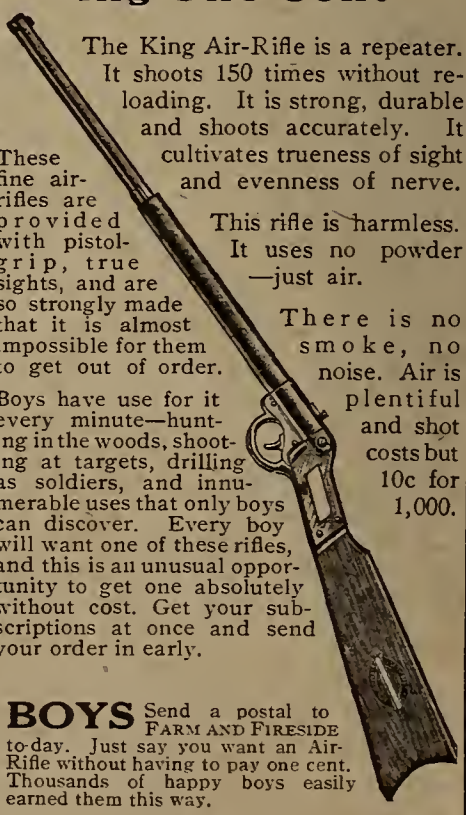

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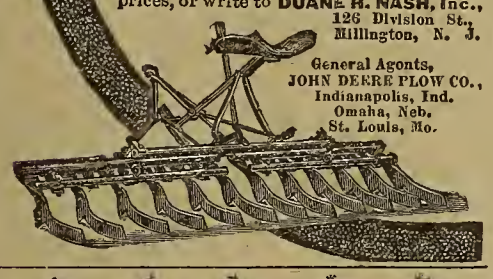

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GARDENING

By T. GREINER

Some Good Things You Want

DON'T forget the "Delicious" squash, provided you like a dry, mealy, sweet winter squash that can take the place of the sweet potato on our Northern tables. Even a five-cent seed-packet of it may give you a dozen hills, eight or ten feet apart each way, and a full supply of a really enjoyable vegetable for fall and winter.

Plant a few hills of the Tennessee sweet potato pumpkin for pies. All large seed houses catalogue it. It can be grown in the corn-field if desired.

Of course, you want some good muskmelons. Nothing better in quality than Emerald Gem, and it is early, too; it will succeed on any warm piece of ground, even in the northern states. We can also raise Paul Rose and Gold Coin, both high-quality melons, and many others. I would not like to do without any of these vegetables named, and give this in answer to questions asked by a number of readers.

Why Not Egg-Plants?

A Montana reader wants to raise some egg-plants and asks when to plant them and how to take care of them. Our friend lives in Flathead County, a rather mountainous region, and I do not know what kind of a summer they have there. Egg-plants like summer heat and rich food. They are high livers. Yet I have always been able to raise all the egg-plants I wanted, even here in this climate of western New York.

The best thing an inexperienced gardener can do is to secure his plants from a professional plant-grower and set them in open ground after the weather has become warm and settled, here about June 10th. If the land is not very rich already, scatter a few handfuls of poultry-manure or other rich fine manure around each plant, give clean cultivation and you will get the eggs all right.

If you wish to raise your own plants, start them in March by sowing seed in a flat under glass, giving it a place where a temperature ranging between sixty degrees at night and ninety or so in daytime may be maintained. After the plants are a couple of inches high, prick them out and transplant into other flats or pots, always giving richest fibrous loam and good heat. The plant, both under glass and in open ground, has many insect enemies, the attacks of which may have to be guarded against by frequent spraying with a combination of either Bordeaux mixture or lime-sulphur solution with arsenate of lead.

"Fat, Sassy Watermillions Hidin' in the Vines"
Don't Miss Having a Patch This Season

Cabbage-Worm an Easy Victim

An Idaho lady reader says she has had no trouble growing cabbages free from worms, and cabbages to beat her neighbors, by using a spoonful of black pepper, or cayenne, or red pepper in a pail of water, with two spoonfuls of salt. She sprinkled this over the cabbages ever week.

The various kinds of pepper have often been recommended and used as a remedy for the green worm. So has salt. If you will spray your cabbages with hot soap-suds with some salt in it, the worms will be likely to disappear. I have also used tobacco in various forms, both dry and in tea form, as also buhach, solutions of muriate of potash, lime-sulphur wash, etc., with good effect. We might say: "Use any old thing."

How Gladioli are Increased

A lover of the gladiolus wants to know how to treat the little bulbs, of the size of a pea or hazelnut, that grow at the base of the big corms, so as to get flowering bulbs. He broke them off last year and planted them separately, but for some reason they failed to grow.

If you have a good sandy loam that is well supplied with humus, you will find it as easy to grow gladioli as any other flower, and they are as pretty and as satisfactory as any. All you have to do is to plant them as you would plant potatoes and you will get flowers in plenty—always supposing, however, that you have secured good and well-matured bulbs.

To increase the stock of any one variety, the most common method is by means of the little corms, cormlets, or bulblets, that grow at the base of the large new corm. These may be taken off in the fall when the big corms are taken up and stored in paper or other bags or sacks or boxes, safe from frost, until spring. Then plant them as you would peas. They will make large corms and give bloom the first, or, more likely, the second season.

If you planted them last year and failed to make them grow, the most likely cause of the failure is that the corms were allowed to dry out too much. We sometimes plant a row of gladioli for a fringe or border along the main walk in the vegetable garden, and they delight the eye of everyone who passes by their gorgeous coloring.

For Covering Verandas and Summer-Houses

A New Mexico reader asks what climbing rose and other vines would be best for covering a summer-house. For covering verandas, etc., we usually select clematis, sometimes wistaria, and of roses, the Crimson Rambler. Among the climbers that are available for this purpose are honeysuckle, Ampelopsis and others. Any of these can be used for covering summer-houses. My preference, for that purpose, however, would be a thrifty variety of grape-vine, such as Concord, or Worden, or any sort that will do well in the locality. What a person in New Mexico would select, is another question.

A Pointed Hoe

NEEDING a tool to set strawberry and other plants, I cut off the back of an old hoe so that the corners are points. At the shank it is two and one half inches wide. I have in mine a short handle. It worked so well that I cut all our hoes the same way and like them better. They are lighter, "take" better and will work closer to small plants.

E. G. BROCKWAY.

Fruit and Vegetable Brevities

France produced only about half as many bushels of potatoes in 1910 as in 1908 and 1909.

Prof. E. W. Duckwall (chemist) states in the *Canner and Fruit-Dryer* that rhubarb, squash and pumpkins are the most corrosive products that are put up in tin cans.

The *Pure Products Magazine* advises the proprietors of canneries not to be satisfied with running them during the summer, but to put up various food specialties during the rest of the year.

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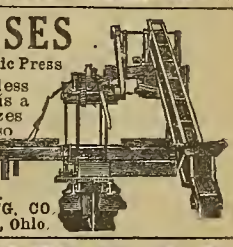

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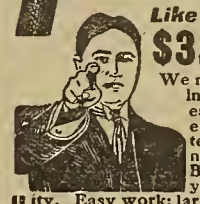

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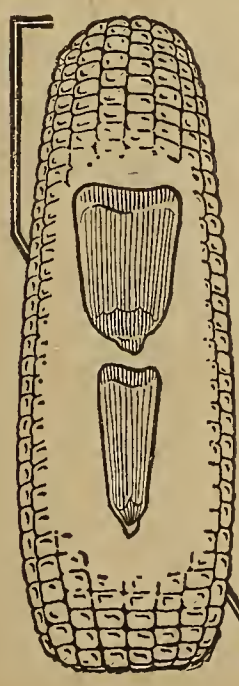

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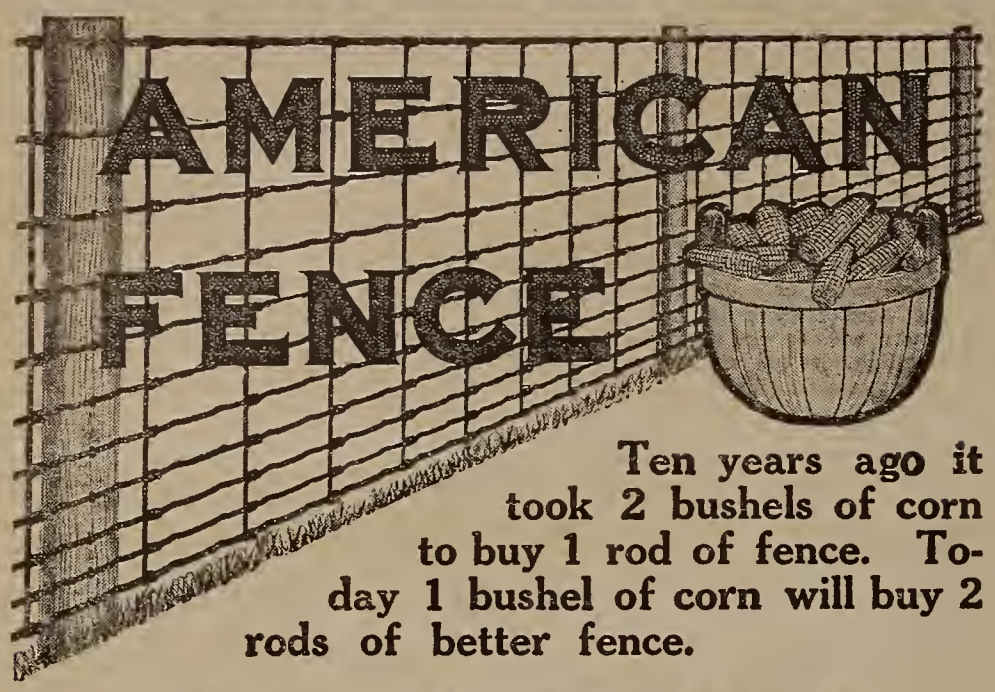

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Garden and Orchard

Home-Made Miscible Oil

THERE are certain spraying solutions that will ruin the looks of any dwelling or painted surface they fall upon. After spraying a few cherry-trees with the lime, Bordeaux and arsenic mixture, I found a newly-painted spring-house a mess of yellow splashes on three sides, looking for the world like iron-rust. They remained so. In spraying trees about a dwelling-house, one can soon ruin a costly job of painting.

But the sprays made up of the miscible oils will not injure the paint upon either house or fence, neither will it leave a mark on the trees and they do not destroy the spraying utensils as the lime and sulphur spraying solution does.

A miscible oil is one so made that it will mix readily with water. You buy the miscible oil by the gallon, already mixed, or you can get the formula and make it yourself. It is usually mixed at the ratio of one gallon of the miscible oil to fifteen gallons of water.

If used correctly, miscible oil is sure death to the San Jose scale. Some young apple-trees sent me from an Eastern nursery came literally alive with this scale. Prior to shipment, nursery stock should be dipped in a solution of miscible oil prepared as described. Unless this is done, that nursery soon goes on the bad books of those who purchase fruit-trees nearly every year, if not every year regularly.

Lime-Sulphur and Miscible Oil

The lime-sulphur wash is certainly an efficient remedy for the San Jose scale, especially on peach-trees and on other insect destroyers of this tree, but the miscible-oil wash is considered by many fruit-growers equally as effective for peaches and much more so on old apple-trees, as the ingredients of the miscible oil are very penetrating.

The mixture of these miscible oils is usually a secret with the manufacturer, but the main ingredients are well enough known to make a very good miscible oil at home. As the commercial oils are cheap, it may be just as well to buy them unless you have a big iron kettle and a thermometer to record three hundred degrees Fahrenheit. In this case it is cheapest to make these oils yourself, although your druggist must be one trusted to get you the best of ingredients.

I will give a formula used at the experiment station at Storrs, Connecticut: Two quarts of carbolic acid, crude, liquid, one hundred per cent.; two and one half quarts of good quality fish-oil; one pound of granulated caustic potash. Heat to three hundred degrees Fahrenheit, remove immediately from fire and at once stir in three and one half quarts of kerosene and five quarts of water. This will make three and one fourth gallons of the emulsifier, which in turn will make nineteen and one half gallons of the complete miscible, which in turn will make three hundred and twelve gallons of the spray.

Mixing and Using

This emulsifier is a clear claret-brown color and will keep indefinitely. In the making of this, use an iron kettle set at a distance from a building. Stir the acid, potash and fish-oil well before adding the fire to kettle, and stir slowly while heating up. Then place a lid with a hole in it, into which you fix a perforated funnel to hold thermometer. This thermometer can be held in the funnel by means of a string. As the stuff will foam it is best to use a kettle large enough to be not more than half full of the boiling ingredients. When the thermometer reaches three hundred remove the fire and as the stuff in the kettle cools, add first the kerosene, next the water. To add either when the boiled stuff is at high heat would cause an explosion.

To make the miscible oil, you use with eight parts of the emulsifier thirty-five parts paraffin-oil, five parts rosin-oil and one part water. These ingredients must be mixed in a warm room and vigorously stirred. At first the mixture is thin, but after some hours becomes thicker and smooth. This is the miscible oil that when placed in water turns white and mixes as milk would with it.

I. M. S.

Dwarf Apples Found Wanting

FROM time to time the question of planting dwarf apple-trees has come up. Such trees have been used quite freely in Europe by private growers, and in some places possibly commercially. Periodically they have been boomed in this country. When the San Jose scale scare took hold of our fruit-growers, their attention was drawn to the dwarf trees, as more amenable to treatment for that insect. Then the two New York State fruit-growers' societies, in conjunction with the Geneva station, took the bull by the horns and established three dwarf apple-orchards in different parts of the state. After six years of experimentation, Professor Hedrick, horticulturist of the Geneva station, who gave the report at the recent Rochester meeting, comes to the conclusion that the dwarf orchard holds out no promise of becoming a factor in commercial apple-growing, though a few trees may be of service in the suburban home garden.

There are two classes of dwarf apples. One is top-worked on Paradise stock and makes a small, bush-like, shallow-rooted tree that needs good soil and a constant supply of moisture. Only a limited number of varieties will succeed on the Paradise stock, and the experiments with it seem to justify the conclusion that this class of dwarf apple-trees is of comparatively little value for the American fruit-grower. The other class is top-worked on Doucin stock which is midway between a true dwarf and a standard tree. Most varieties of apples succeed on it. This, then, is the tree for the owner of a suburban home who has but little room for trees and wants just a home supply of a number of varieties of apples.

Early Crop Claims Not Made Good

Professor Hedrick finds little in the results obtained to back up the claim of early bearing. In the fifth year the trees on Paradise stock gave an average of 12.7 apples; the trees on Doucin stock six apples, the standards .5 apple. The expectation that we can get a "profitable crop" the second year after planting was not realized, and even the fifth year's crop, as shown, was not large enough to cut any appreciable figure.

In Europe it is claimed that all orchard operations such as pruning, thinning, spraying, etc., are more easily performed on the dwarfs than on standards. Per contra, Professor Hedrick finds that there is more work in pruning, watching, etc., and that it is more difficult to give the required thorough and clean cultivation. The loss from gales in a windy country, however, is greater among tall trees than among dwarfs. The claim of better quality, higher flavor and higher color has not been upheld by the results obtained in the three trial orchards. Altogether, Professor Hedrick thinks that the dwarf tree, especially on Doucin stock, is of value only to the amateur who has a small area and wants a number of varieties.

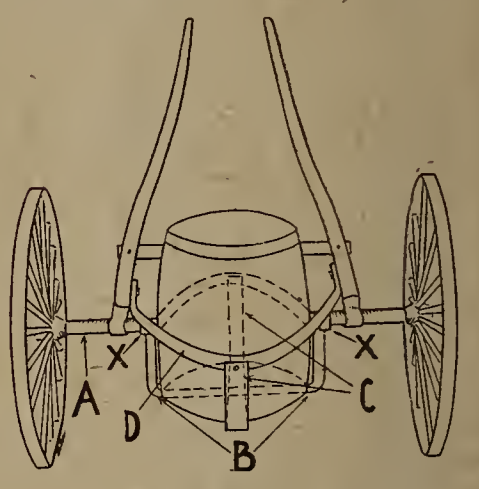
I may say that I have a half dozen such trees, now twenty-one years old, on my grounds and that in a general way my experience with them agrees with the shorter experience of the Geneva expert. To plant for home use, yes—for business purposes, no.

T. GREINER.

Simple Spraying Outfit

THE following outfit has proven so practical in my orchard that I want to give others a chance at it. Secure a worn-out or out-of-date grain-drill with good wheels and have a blacksmith bend the axle (A) as in illustration, to fit around a fifty-gallon barrel. The center of the barrel should come a little in front of the axle ends.

A piece of strong strap-iron or wagon-tire (B) is then bent to fit around under bottom



of barrel when it is set upright with middle of barrel about even with axle. At either end of this iron band hooks are bent to fit over axle (at XX).

Another piece of strap-iron (C) may be fastened around the axle in front and bent around under bottom of barrel allowing it to project up back of barrel several inches. It can be riveted to back band (D), as shown. The shafts extend as shown, and a piece of buggy-tire (D) is bolted to shafts and bent around back of barrel to keep same from tilting backward.

This iron basket as one might call it, with the wheels, singletree and shafts, forms the cart. The barrel is placed within the basket and a good barrel pump, with air chamber and the necessary accessories, is attached. Do not buy a cheap pump. About twenty feet of half-inch discharge hose, a ten or twelve foot extension rod (iron pipe will do) and a single nozzle completes the outfit.

One man, walking along behind, pumps and drives and can furnish sufficient power for one nozzle, while another man, also standing on the ground, operates the nozzle. It is surprising how much spraying can be done with this simple outfit in a day, as it can be drawn almost any place, along hillsides or under low trees, with one horse. It is not suited for trees over twenty-five or thirty feet high. The cost of such an outfit need not exceed twenty dollars.

DAVID PLANK.

Garden and Orchard

Apple Worms—Keep Out!

How to Guard Your Fruit From Codling-Moth

THE depredations of the codling-moth in the apple-orchards of the United States are nothing less than appalling. So serious have the devastations of these pests become that many states have passed horticultural laws compelling the growers to take measures in order to hold them in check. Several states have gone so far as even to prohibit the sale of wormy apples. The losses from this insect alone are said to be greater than those from all other insects combined. Mr. C. L. Marlatt, of the Bureau of Entomology, in discussing this loss, says: "It has been shown by careful estimates in various apple-growing states that this insect may cause a loss of from twenty to forty per cent. of the fruit which would otherwise be sound and merchantable. The loss on the lowest, or twenty per cent., basis will amount annually to $11,400,000 in the United States and this does not include the expenditures for spraying trees with arsenicals which amount to more than $8,600,000 additional, including a total loss chargeable to the codling-moth of nearly $20,000,000."

This great loss, however, is rapidly being reduced in the leading fruit sections of the United States. The growers in these sections have practically agreed that it is useless to try to hold this pest in check without adopting the latest methods of control.

The Four Ages of the Moth

As the system of control is based on certain points in the moth's "life cycle"—the series of transformations the insect goes through in its development—it will be well for the grower to become familiar with these different stages. This will enable him to make the applications more intelligently. In the development of the moth we note four different stages: The larva, the pupa, the moth and the egg.

Larva stage: The codling-moth passes the winter in the larval stage. Everybody is no doubt familiar with the "worm" found in the apple. This small worm is known, in scientific parlance, as the larva, and it spends most of its life within the apple. After becoming full grown in the fall it emerges from the apple and seeks a secluded spot, in a crack or a hole in the tree, or in the house where the apples have been stored. There it spins its silken cocoon. In the spring the larva enters the pupa stage.

Pupa stage: The larva is transformed into a brownish, glossy, legless "worm," quite different in appearance from the larva or common "apple-worm." It rests a little over two weeks in this condition, when it emerges as a moth. The moth begins to appear soon after the blossoms open.

No Race Suicide

Moth stage: These adults are grayish-brown in color, similar to the bark of the tree and with wings extended measure about three fourths of an inch across. The most characteristic markings are large golden-brown spots on the outer hind angle of the front wings. These moths are pretty little things, surprisingly delicate for insects causing so much havoc. The moths fly about for three or four days, and then deposit their eggs, which are about fifty in number. The codling-moth, you see, is no believer in race suicide, though some insect-pests do beat it as egg-layers.

Egg stage: On examining the leaves or twigs just before the blossoms open, minute, pearly-white eggs about the size of pin-heads may be found. They resemble convex disks. The eggs are so tiny that it is hard for the ordinary observer to locate them. Three or four days later a red ring appears within the egg, which marks the position of the embryo. Two or three weeks after the blossoms open the worms appear. With these fellows the orchardist is most concerned.

Two Broods to Fight

The grower will be interested in the number of broods he has to combat. The first worms, or larvæ, as stated above, are hatched from the eggs laid on the leaves just before the blossoms open. These represent the first brood. The larva on hatching seeks shelter and the first place that presents itself is the calyx end of the young apple. The majority of the first brood enter the apple by that route. As it only takes on an average fifty to fifty-seven days for this brood to complete its life cycle and run through the changes of larva, pupa and egg-laying moth again, we find the second brood of larvæ appearing some time in July. These fellows usually enter the apple from the side. After this second generation has reached maturity, the worms spin their cocoons and hibernate for the winter. Thus we see that the growers have to contend with only the two generations, but that is bad enough at the best.

The average life cycle of the moth of the first or summer brood is about fifty-seven days. But there is a wide variation in the rate of development of the different individuals, hence the difficulty in keeping them in check.

The best means of holding the codling-moth in check is by spraying the fruit with some arsenical poison, the object, of course, being to poison the larva before it enters the fruit. Professor Malander says: "The most successful method is based on the theory that if a poison can be introduced into the calyx of the flower, the worm is killed when he enters." As the first brood tries to enter the apple by way of the calyx, it should be well filled with poison. The leaves and sides of the apples should also be covered.

Several arsenical sprays are at present in general usage throughout the country. Paris green, up to within a few years ago, was the best known of the arsenical sprays, but it is being rapidly supplanted by the several commercial brands of "arsenate of lead." This material is sold in the form of a paste and is used in the proportion of two or three pounds to fifty gallons of water.

The orchardist may make his own arsenic poison by mixing the following ingredients: White arsenic, one pound; lime, two pounds; water, three gallons. To prepare this solution the arsenic should be mixed with the lime while it is slaking and boiled fifteen minutes. This stock solution should be diluted at the rate of one half gallon to fifty gallons of water. Some growers in the Northwest prefer to add to every fifty gallons of the diluted solution two pounds of lime, for its white color aids them in determining how well the spraying has been done. This preparation is cheaper than the prepared arsenate, but does not stick nearly so well as the prepared sort.

A Cup of Poison

When should the poison be applied? No set dates can be given for spraying, as the time of blooming differs so materially in different localities and different seasons. However, since the first generation appear soon after the blossoms open, and the majority of the worms enter the fruit by the calyx, it should be the aim of the first spraying to fill this cup. The first application then should be made just after all the blossoms have fallen, before the calyx cups have closed. A second spraying about ten days later finishes the campaign against the first brood.

Eight to nine weeks after the petals have fallen, the first application for the second brood should be made. It sometimes requires a second application two or three weeks later to control the second brood, but this is not usually necessary.

Professor Ball of Utah, who has been working on the codling-moth question for the past ten years, has obtained some remarkable results. He has endeavored to find the efficiency of the first, second and third application for the first brood. He has been trying to find whether the third application is essential for the control of the moth. His first application was made just before the blossoms had fallen; the second ten days later, and the third fifteen days after that. His results are shown in the following table:

Times sprayed.....	1st	2d	3d
Wormy apples	8	4	3
Worms killed	64	68	69
Per cent. killed	89	94	96

From the above table we can readily see the importance of making the first application when the blossoms fall, for at this time practically eight ninths of the worms were killed. The first and second application killed seventeen eighteenths of the worms, or ninety-four per cent. When three applications were made ninety-six per cent. were killed. This was slightly better than the two sprayings. Probably not enough difference was obtained to justify one in making the third application for the first brood.

Sprayed Well, Pay Well

Some other trees near by were left unsprayed as a check. These had about nine times as many wormy apples as those that received one spraying.

These results show that when the spraying is thoroughly done and every part of the trees and buds covered but few of the codling-moths escape. The grower should bear in mind the fact that thorough spraying is the secret of success.

The kind of apparatus used will also determine to a marked degree the success obtained. In commercial orchards of any size, the tower gasolene spray pump should be used. The tower is quite essential in aiding to combat the moth, as the operator can get above the blossoms, thus driving the spray into the flower more forcibly. For this brood, the Bordeaux nozzle has the preference, as it throws a fan-shaped spray. One hundred pounds pressure should be kept up, as it takes power to drive the poison into the calyx. With the later sprayings, a mist nozzle may be used. This kind of spray covers the apple more thoroughly.

For small plantations barrel pumps will do, of course.

A large proportion of the worms may be killed by placing bands around the trees. This serves as a check on the spraying. Fasten strips of burlap about eight inches wide about the trunks. About every two weeks the bands are examined and the worms killed.

C. C. VINCENT.

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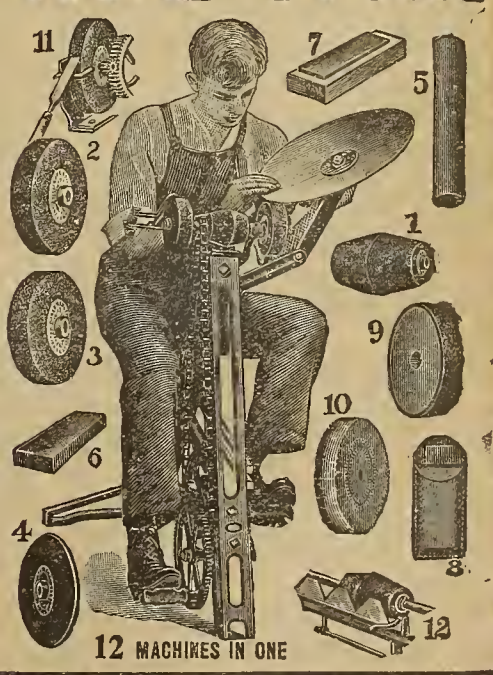

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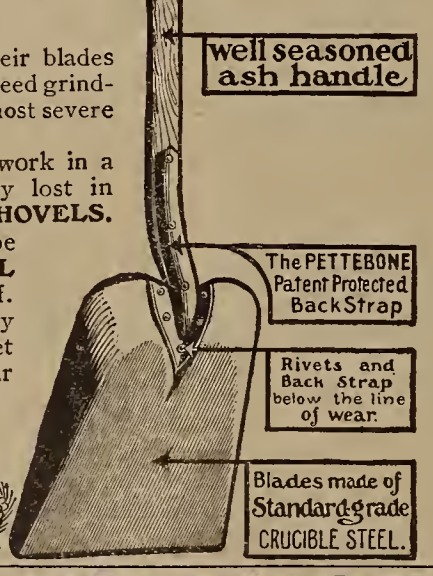

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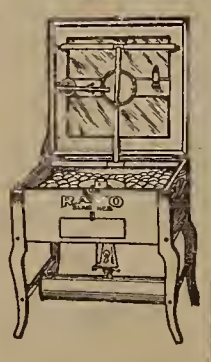

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Poultry-Raising

Keeping the Chicks Alive

COMPLAINTS were general last spring in our section of Indiana as to the loss of chicks, both those hatched in incubators as well as under hens. While there may have been climatic reasons for some of this loss, we think much of it came from a want of care. With a reasonable amount of attention chick losses can be reduced to a minimum.

One of the first requirements in setting the hen is a clean vermin-proof nest. A good plan is to keep a moth-ball constantly in the nest to ward off this danger.

The chicks should be allowed to remain under the hen until all are hatched. The practice of removing them as fast as hatched is fatal to more chicks than any one other cause. They should be left with her till they are "nest ripe," and anyone familiar with handling chicks can tell when this occurs by the actions of the chick.

Before removing them to the coop the hen should be well fed, for she has been many hours on her nest. If removed in a hungry condition, she will be restless and hence will not brood her chicks properly.

Grubstaking the Youngsters

Little food is required by the chicks the first day, although stale bread-crumbs may be given in small amounts. Brooding is more important than food.

The second day the feed should be one part hard-boiled egg mixed with three parts of finely-chopped stale bread, soaked in milk and pressed dry, given a little at a time and often.

After the third day crushed wheat, boiled rice, oat-meal or rolled oats may be added to the egg and bread, and fed up to the tenth day, after which corn-meal can be substituted. When two weeks old whole wheat, cut bone, mashes of shorts, stale bread or corn-meal may be fed. Milk or water should be accessible.

When fully feathered separate the chicks from the mother. Until they are six weeks old they should be fed five or six times a day. After that three times daily will answer. During this time they should be carefully looked after because there is a heavy drain on their digestive system to supply feathers for a covering, as well as bone, sinew and muscle.

Early hatched chicks, unless in the hands of an expert, seldom prove a success. The first eggs laid in spring are not as often fertile as those later on and the loss in hatching is not only great, but the resulting chicks are not robust. If the hens that produce early layings have not been laying much through the winter, as is so often the case in farm flocks, they will not have recuperated from their winter's idleness and their progeny will lack vigor. Hens set between the middle of April and middle of May will, as a rule, give best results, in numbers and strength of chicks.

My own experience has been that the best way to produce strong healthy chicks is to select good two-year-old hens and mate them with a healthy year-old male, allowing eight or ten hens to one male. J. H. HAYNES.

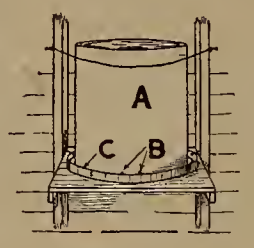
Dangers of Close Cooping

MANY times I have been asked at farmers' institutes what I thought about the system of raising the chicks to maturity in coops, and keeping them in these coops in small numbers their first year or as long as they are kept.

I have experimented a whole lot along this line and have found that chicks hatched in incubators, chicks raised in heated brooders and fowls confined to coops are the first to develop tuberculosis and diphtheritic diseases. The conditions are not natural, but are just right for developing these diseases in their most virulent form and bringing disaster and ruin to poultry-raisers. I have long been well satisfied that the germs of these destructive diseases lurk in the eggs of fowls confined and bred in coops, and for that reason would never purchase eggs for hatching from such fowls. Many a costly plant has been infected by these diseases introduced through eggs from such fowls and developed by the conditions prevailing in such plants. FRED GRUNDY.

Poultry-Watering Device

A USEFUL improvement of the "inverted pail" poultry fountain is described in a letter from Mr. Newton Gilson, a FARM AND FIRESIDE subscriber at Sparta, Wisconsin. He says:



I have used this fountain several winters with good satisfaction. It is made from a straight-sided one-gallon pail (A). If the pail has a rim around the top, melt that off. Punch two small holes (B)—an eight-penny nail makes a good-sized hole—two inches apart on one side an inch from the top. Then get a tin pan (C) about one inch and a quarter deep and two inches wider across than the pail.

Make a shelf for the fountain between two studdings, projecting out the width of the pan. Drive two nails into the wall over the edge of the pan to keep it from tipping. Also nail a wire across between the studdings to slip over the top of the pail and hold it in place.

To fill the fountain, take out the pail, turn it right side up and fill it up to the holes (B). Put the pan over the pail. Place one hand over the pan and the other under the pail, and invert it quickly, holding the pan under it. Set the whole thing back on the shelf. The pan will fill until the water covers the holes, but no farther. When the water gets below the holes, more gushes out until the holes are covered again. The apparatus works on the same principle as the poultry fountains quite commonly seen in stores.

Push the pail to the back of the pan so the chickens will have a clear two inches at front of pan from which to drink.

The advantages of this fountain are that it keeps water warm longer than a trough, and much cleaner. If it happens to freeze, it is easy to turn it upright and loosen the ice by thumping it against the wall, for the sides of the pail are naturally elastic when the rim is off.

I have two of these fountains for each fifty hens, one for milk and one for water, and they give good satisfaction.

Gritty Bits

Don't set eggs that are not fertile and then blame the incubator.

You want eggs next December, sure. Then start your hatches now. Chicks you get in April are the ones that will put the eggs in your basket next winter.

We worked up quite a trade one year with ducks' eggs, and the funny part of it was that it was mostly among people who had lived in Germany. Wonder why that is?

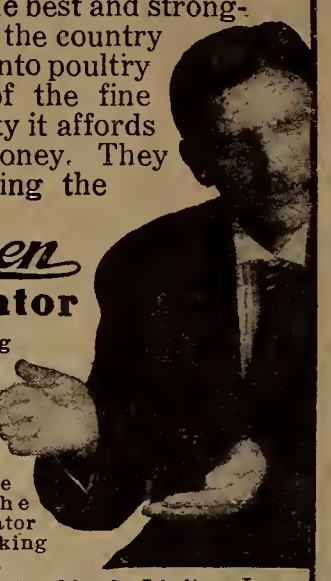
Incubators are fine, but worry along without one till you can pay for it. Debt is such a load to carry. Better do most any way for a while than to weigh yourself down with worry over promises to pay.

I have seen folks throw good, clean feed right down into a six-inch layer of dirty litter on the floor of their hen-houses, and expect the hens to dig it out. Inviting prospect, isn't it? Men and brethren, that's no way to use a hen. Clean litter or none—that's a good rule to go by. In fact, set the table for your hens just as clean as you would like yours to be.

Don't waste your time and patience setting hens that won't stick to their jobs. If there is anything that makes me tired, it is to have a hen stay on the nest just long enough to spoil a lot of nice eggs and then skip the coop, saying, "I'll see you later." Makes me mad enough to see her with a good, sharp-edged ax in my right hand and a pair of legs in my left. E. L. VINCENT.

A Business Worthy of Your Best Efforts

Many of the best and strongest men of the country are going into poultry because of the fine opportunity it affords to make money. They are adopting the



Queen Incubator way—making the poultry business a *REAL* business. I want to send you my book and tell you more about "the Queen Incubator way" of making more money.

My poultry-loving friends, I believe I can convince you that it is the *livest business* you can go into. I will not only convince you, but I'll make you the most liberal offer you ever had in the way of starting up. It is not play, but money making, that I and my 61,000 friends are engaged in—a business worthy the best energies of the best men and women. I have a fine free book—a poultry educator—to help me tell the story. You need it. Write me.

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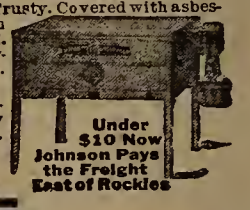

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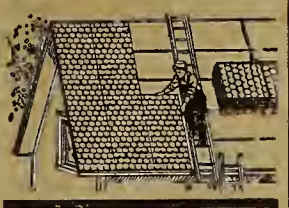

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THE BUCKEYE INCUBATOR CO., 573 W. Euclid Avenue, Springfield, Ohio.
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155 EGG INCUBATOR CHICK BROODER BOTH FOR $11.25

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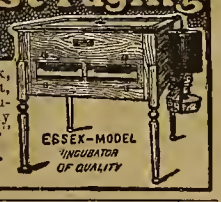

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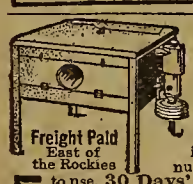

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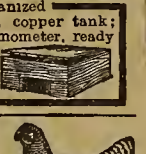

of pure bred poultry, for 1911, over 200 pages, 57 colored pictures of fowls, calendar for each month, illustrations, descriptions, photos, incubators, brooders, and all details concerning the business, where and how to buy fine poultry, eggs for hatching, supplies, etc., at lowest cost. Send 15c. B. H. GREIDER, BOX 62, RHEEMS, PA.

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Poultry-Raising

Fine Quarters Don't Make Fine Birds

THE question as to what can be done in poultry-keeping is an old one, and it is usually answered by detailing the "system"—inclusive of kind of shelters, method of feeding, etc.—that is deemed necessary to success. But a more important question, for the average farmer, is what can be done without the elaborate equipment of any prescribed "system" where one has to depend more or less upon improvised shelters lacking in almost all the features that modern poultry-keeping demands. For there are comparatively few who would feel like getting new equipment while they already have buildings which, even though ill-adapted, might be made to answer the purpose.

I shall try to answer this question by stating, briefly, what we have done with poultry here on Prudence Island and by quoting a few figures from our books. And let me say right here that it is impossible to do any really good poultry business without keeping accounts; for, otherwise, the profit is wholly a matter of estimate constantly leading to wrong conclusions.

Fitting Ourselves to Circumstances

The first thing to decide about poultry-keeping is whether eggs or table fowls shall be the main issue. In our case, our nearness to a market where there is always a strong demand for fresh eggs at high prices decided us to make egg-production our chief aim. For this purpose we chose the Leghorns. They have proved good, all-the-year-'round birds and it has been our experience that they lay fully as well in winter as those breeds commonly believed to be more hardy. Within reasonable limits, the production of eggs depends more upon care and management than upon breed; but, nevertheless, the non-sitting breeds are always to be preferred where eggs alone are the object. We keep no hen more than two years and we keep cocks only with our breeding flocks.

The farm, as we bought it, contained a greater number of buildings of various kinds than most farms possess; but there were only two poultry-houses intended, respectively, for one hundred and two hundred hens. We proceeded, however, to partition off in the other buildings all the space that could be spared for poultry. We used for these partitions a framework of narrow strips of boards and sometimes poles cut in the woods, across which we stretched old grain bags. This made an exceedingly inexpensive wall and, for an interior partition, as tight and warm as one made of boards. Covered with whitewash or cold-water paint it was even tighter, but we rarely found this necessary.

Houses Covered With Building-Paper Gave Good Service at First

The objection has sometimes been made that partitioning off a part of a building for hens is dangerous on account of infecting the rest of the building with lice. We manage to keep the lice down throughout every part of our poultry-plant, so that trouble does not have to be reckoned with. One of the most important rules in poultry-keeping is that whatever measures are used for the prevention of lice it must be applied with clock-like regularity; and this, too, whether such prevention is apparently needed or not. A well-managed poultry-house is always practically free from vermin.

How We Manage Our Flocks

We prefer flocks of twenty to twenty-five hens, but owing to differences in the buildings it was often impossible to arrange this, as some of our flocks were larger; sixty was the largest. But, though we have since begun to build new houses of the size we prefer, in no case have the poultry done better in the new than in the old.

The interior arrangement of the compartments necessarily varied as much as did their size, but in certain respects they were alike. We always placed the perches in the rear and in front of them had a curtain, made of old grain bags, which was always let down at night in cold weather. In the front part we keep, in summer, clean sand and in winter a layer of litter above it for the hens to scratch in. The walls, nests and perches are kept clean by occasional whitewashings. A few cracker-boxes suit the hens for nests just as well as anything else, and what is equally to the purpose, the eggs that are laid in them sell for just as much money.

Now it will be seen that the essential requirements of good poultry management can be carried out in rough and improvised quarters as well as in houses built for the purpose. It cannot be said that they are, literally, just as good, for the rough walls are harder to whitewash and in several cases we could not get as much light as we wanted.

In our chicken-raising—for we raise all the pullets with which we replace the two-year-olds—we have followed equally inexpensive and what I have no doubt many would consider primitive methods. But we raise the chickens. Most of our brooders are home-made and during the first two years all our chicken-runs were covered with second-hand fish netting of which we had an opportunity to buy a large quantity for a mere trifle. It was unfit for further use in the water, but was sound enough for the use to which we put it.

No Secret—Just Sense

For the details of management, we claim no special "secret" of success, beyond the fact that our poultry is carefully looked after, fed according to our best judgment and their quarters kept clean and free from vermin.

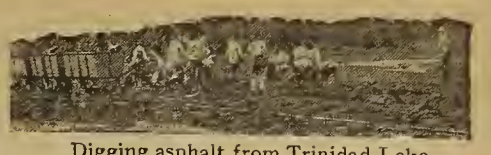
Stone Poultry-House—a Paying Ornament to the Writer's Farm

Comparatively few people realize, I think, that poultry is exactly like other stock in regard to the equipment essential for keeping it. Many a farmer who would prefer an up-to-date, modernly equipped cattle barn is constrained to keep his cows in old-fashioned and not over-convenient quarters and yet, by taking proper care of them, gets an equally good result. It is the same with poultry. Make their quarters warm and comfortable and take good care of them and they will do just as well as in more elegant surroundings.

Last year our hens, seven hundred in number, paid us a net profit of $868.11, or about $1.24 per hen. The year before five hundred and eighty hens paid a net profit of $742.44, or about $1.28 per hen. These figures are fairly representative, though we have sometimes done better and sometimes not so well. They show, I think, what any farmer can do with only the equipment that is already on his farm, if he makes the best of his opportunities.

The accompanying photographs show types of new houses that we have built and found successful. In these buildings we allow five square feet of floor space to each hen, which our experience has proved to be about what is needed.

DAVID BUFFUM.



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Knowing this, will you buy the covering for *your* roof on its "looks" alone, and not know what it is made of?

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is waterproofed entirely with *natural* asphalt. In Trinidad Lake this asphalt has resisted blazing sun and terrific storms for hundreds of years. It has natural oils that give it lasting life in a roof despite the buffeting of rain, snow, sun, wind, heat, cold, and fire.

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Genasco is made with mineral and smooth surfaces. Guaranteed, of course.

The Kant-leak Kleet waterproofs the seams of roofing thoroughly without the use of smeary unsightly cement, avoids nail-leaks, and gives the roof an attractive appearance.

Ask your dealer for Genasco Roofing, with Kant-leak Kleets packed in the roll. Write us for the Good Roof Guide Book and samples.

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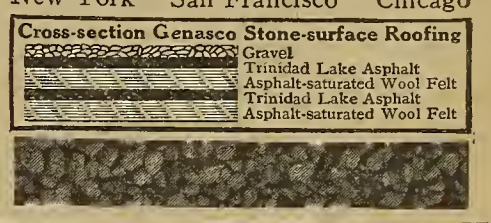

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FOY'S BIG BOOK tells how to start small and grow big. Describes World's Largest Pure-bred Poultry Farm; gives great mass of poultry information. Lowest prices on fowls, eggs, incubators and brooders. Mailed 4c. in stamps.
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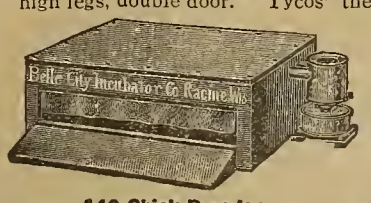
Write today—or if in a hurry, order direct from this ad—hundreds of others do. I'll send book too. Read remarkable offer below. J. V. ROHAN, President Belle City Incubator Co.

$7.55 Buys the Best 140-Egg Incubator Ever Made

$4.85 Buys the Best Brooder

Both Incubator and Brooder, Ordered Together, Cost But $11.50—Freight Prepaid (East of Rockies)

Our Belle City Incubator will hatch more chicks, under the same conditions, than any other incubator, else your money will be refunded. This I guarantee. It has double walls and dead-air space all over, copper tank and boiler, hot water heat. The best self-regulator, deep nursery, strong egg tray, high legs, double door. "Tycos" thermometer, egg tester and safety lamp included.



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The Belle City Brooder is the only brooder having double walls and dead air space. I guarantee it to raise more chicks than any other brooder made. Hot-water, top heat, wire yard, platform and safety lamp.

A Complete Hatching Outfit for Only $11.50

No machines at any price are better—75,000 in use. **Satisfaction Guaranteed.** Write for book, "Hatching Facts" today, or send the price now and save waiting.

J. V. ROHAN, Pres.
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125 Egg Incubator and Brooder Both For $10

Why pay more than our price? If ordered together we send both machines for $10.00, and pay all the freight charges. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery underneath the egg-tray. Both Incubator and Brooder shipped complete, with thermometers, lamps, egg-testers—all ready to use when you receive them. All machines guaranteed. Incubators are finished in natural colors showing the high grade lumber used—no paint to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Send for the free catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO., Box 88, Racine, Wis.

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TRIPLE ASPHALT-COATED, MICA-PLATED

ROOFING

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Poultry-Raising

Green Bone and Egg-Making

SOME time ago we asked for the experiences of our readers with green-cut and dry-ground bone as a poultry-feed. The former got the vote of everyone who wrote to us. We publish several of the letters received on the subject, below. They not only give good evidence in the matter of cut-bone feeding, but also very useful incidental feeding hints drawn from actual every-day practice.

Mrs. M. G. Adams writes from Texas:

There is no comparison between green-cut bone and dry-ground bone as a food for poultry. Dry-ground bone contains only mineral elements, principally lime and magnesia. Green bone contains all those mineral elements together with the bone serum or blood, marrow, cartilage and bone covering, all animal elements, in extract form, so to speak, and it also has the advantage of containing a certain per cent. of meat that the butcher's knife cannot get, especially back or neck bones.

I never had better results with any poultry-food I have tried than with green-cut bone. I bought a dozen hens from a party who sold them because "they would not lay." They were fat, but molting and sluggish. I gave them green-cut bone every day and by the tenth day all had sleek glossy coats, red combs and were laying. When the hens heard the whir of the cutter they began to sing like a Georgia negro camp-meeting. I calculated so each would get about one tablespoonful of the bone-meal. It was scattered on the grass. They never had any disease of any kind among them and they did not care to sit, or if they did get broody they were very easily made to forget it by placing them in a coop and feeding green-cut bone and scrap meats for a few days.

For chicks, I mix green-cut bone three times a week with their other food, so that each would get about a teaspoonful. The effect was very noticeable, comparing them with neighbors' chicks the same age.

Use fresh green bone, not bone that has been boiled, fried or baked or allowed to lie out and sun-bleach. After a hen has been fed the green-cut bone for one year, I believe it is better to sell her, for she has "laid herself dry."

From Minnesota come the following hints, sent by George W. Downie:

We have fed green-cut bone for a number of years, and can readily see the result in the increased production of eggs. We feed it only in winter. It spoils too quickly in warm weather, and then, too, in winter the hens are confined and need the animal food that the green bone furnishes. In summer they can find insects to take the place of meat.

One ounce of green bone per day for each hen is the prescribed ration. Though a little more might do no harm, it is a good plan to go slow on it, as it is very rich and stimulating.

Experiments have demonstrated that bones do not vary greatly in food value; but if they have meat adhering, they are more valuable. We feed the green bone clear, but it may be mixed with a bran-mash or other food if desired.

A little experience will enable a person to pick out the best bones and the ones that are the easiest to cut. They cut easier when frozen, and boiled bones are easier to cut than fried or baked. Shin-bones are so hard to cut that they are apt to chip the knives of the cutter.

When bones become dry they have lost much of their nutritious matter, and are too hard to cut in a bone-cutter. They could be ground in a mill, but this would mean having two machines. Green bone cannot be ground. It needs to be cut, on account of its toughness.

Bones bleached in the weather are practically worthless. They can be burned to charcoal, and then pounded to grit, but are hardly worth the trouble.

C. H. Caldwell, Delaware, testifies as follows regarding green bone and other feeds:

Our experience has been that green-cut bones are a hundred per cent. better than dry-ground bones.

We have found that oyster-shells ground and fed with skim-milk are almost as good to make hens lay as green bone.

One of our favorite feeding mixtures is beef-scraps, fed with charcoal, bran and buckwheat, with cut clover as other green food.

From Minnesota, again, comes the following letter. The writer, W. Willoughby, has a flock that has made a remarkable egg record, which testifies to the efficacy of the feeding system he describes.

At present writing (December) I am feeding ninety-six Brown Leghorns the following daily rations. Morning, noon and about three P. M. they get eight quarts of hay shatterings from the bottom of the manger (principally clover leaves and heads) steamed and mixed with three and a half pounds of shorts. I give daily three pounds of horse-meat and bones run through a cutter, with six pounds of wheat in deep litter, and four and one half pounds of corn given just before the chickens go to roost. As they get used to the meat I shall increase it until I am feeding six pounds.

In September and October I feed boiled potatoes mixed with shorts and bran, sunflowers, wheat and oats—no corn.

Water is before them all the time.

About this kind of feeding produced two hundred and eleven eggs per hen in 1909 and my estimate for the year 1910, almost completed at this writing, gives an average of two hundred and five eggs per hen.

Green-cut bones I have found very much superior to dry-ground bones.

I use outdoor fireless brooders, twenty inches high in front and ten behind, four feet wide and nine feet long, divided into three sections. The first section is two feet long, has glass front and solid lift cover. This section contains a two-by-two hover. The second section is three feet long, covered with storm sash and the third part four feet long, covered with wire netting and without floor. The brooder is fixed so water will drain away and no skunks can dig under. In a dry region one could put fifty chicks in such a brooder, but here, when they get damp, they pile up, so we put in only thirty.

I am in northern Minnesota and we have freezing weather until May. Our first chicks come off about April 20th, and when they are two days old I put them in this brooder. When they are four or five weeks old the hover is removed. Litter is kept in all the parts. The youngsters do finely.

Mr. S. A. Souke, Wisconsin, also uses fireless brooders. He writes the following regarding his flock and their feeding:

From January to November, 1910, I kept twenty Single-Comb White Leghorns for eggs, which brought me $48.40. They laid 2,640 eggs, or 132 eggs per hen, in ten months' time, and I sold the eggs on an average of twenty-two cents per dozen, or $2.42 for each hen. Later these hens were sold at fifty cents each. This, of course, was just part of our poultry-raising—we raised at the same time chicks for market and some pullets, now laying.

This is what I feed my hens. In winter I give them grain in the morning—oats or barley—and in the forenoon half a head of cabbage one day, and the next a good-sized mangel, which I cut in two and hang the halves up in the scratching-shed. At noon we give bran and ground oats and crumbs from the table, mixed in lukewarm water. In the evening we give them enough corn, warmed a little, to last them until the next morning.

In summer they are kept penned in a yard as I have only one and a half acres of land. I feed them about the same, only without warming it, and give them also plenty of green feed—grass or clover.

Where one can get green-cut bone—we cannot now—it is very good, but too much should not be fed. Three times a week I think is often enough.

Says a Nebraska correspondent: "Never feed calves cold milk. It will not only cause scours, but other stomach troubles as well. Warm the milk and feed them the same amount each day, with a heaping tablespoonful of ground oil-cake to each calf."

A good way to give the hens coal-ashes, is to put them on a screen or sieve which is placed on a box about a foot high. As the hens scratch the cinders the ashes will fall through, and they are enabled to get small pieces which would otherwise be hidden in the ashes.

Live Stock and Dairy

Top-Notch Dairy Farming

Lessons for Us All in One Man's Success

THE purpose of this article is to call attention to certain principles which must be understood and practised if present-day farmers' problems are to be worked out successfully. It is a fact established by reliable investigations that farming, as carried on by the large per cent. of farmers, is not profitable. On the other hand, a few—perhaps twenty-five per cent.—are receiving for their time and labor a larger income or salary, after paying interest on investment and running expenses, than the average business man in town or city, and are enjoying more of the best things in life because the farm pays for them. There are farmers who are making farm life so desirable that the children wish to stay on the farm. They see that their best opportunities are right at home. We are interested in the methods of such farmers because we can learn something valuable from them.

"There is no place where hens . . . pay so well as on the dairy farm"
Mr. Finch's chicken department, barn in background

Certain principles are demonstrated by the work of these men, which I wish my readers to see more clearly, because these principles are the basis of success in dairy and diversified farming. They are ideals to keep in mind and work toward.

In dairy farming, the first necessity is a good equipment—a sanitary barn, a good working herd of pure-bred or high-grade cows, and farm implements that enable one to do the work economically and well.

It is desirable to grow as nearly as possible a balanced and succulent ration on the farm; this reduces the purchase of grain. It is necessary to send out a clean and honest product and, lastly, to make farm life attractive by beautifying the home and surroundings, providing modern comforts and conveniences and good literature, and growing on the farm better food than can be had elsewhere.

Sound Principles Well Applied

I have selected a farm in Delaware County, New York, to illustrate my points, because they are practised on it to a greater extent than on most farms. The owner is Joseph Finch. The farm contains two hundred acres, fifteen of which are in timber. About forty pure-bred and grade Holstein cows are kept. For the cows in full flow of milk the winter ration is ten pounds of ensilage, ten to fifteen pounds of clover or mixed hay, and ten pounds of a mixture of wheat bran, hominy and gluten per day. The summer ration is good pasture with sometimes a little grain in a dry season. The fact that there is no place where hens can be made to pay so well as on the dairy farm, where there is a large grass range and skim-milk, has been demonstrated by Mr. Finch. He has good poultry-houses and a full equipment of incubators and brooders. About four hundred White Leghorns are kept, and he is realizing a net profit from them of very close to one dollar each. His two sons, nearly grown to manhood, assist him in this and the general farm work, which reduces the help bill.

Mr. Finch and I went over last year's accounts together, and we placed the receipts and expenses as follows:

RECEIPTS

Returns from milk sold to creamery	$3,000
Net returns from hens	400
Surplus stock, etc., sold	300
Fruits and vegetables grown on farm	300
Fuel from timber-lot	50
House rental	100
Total	$4,150

EXPENSES

Grain purchased for cows	$ 800
Hired help	100
Taxes and insurance	50
Incidental expenses	100
Interest on an investment of $8,000	400
Total	$1,450
Net profit	$2,700

This amount, it will be understood, is not the amount saved above family living expenses, but it represents Mr. Finch's family's salary or labor income. It is evident that Mr. Finch and family can live on this amount on a farm and save a considerable sum each year to pay for permanent improvements.

One principle which Mr. Finch has demonstrated is that it is a good thing to have a good farm equipment. I think he made some debts in building and buying tools and improving his stock, but his income is now sufficient to pay for them in a short time. It was safe for him to borrow money to spend for his farm equipment, because he studied to learn right methods so as not to make any serious mistakes.

A Five-Thousand-Dollar Barn at Half Price

In describing the equipment of this farm, I will first mention the barn recently built (shown by photograph). This barn is one hundred and twenty by forty feet and is one of the best-built barns in Delaware County, one that can be used by several generations. Nearly all the lumber in it was cut from Mr. Finch's own wood-lot. Having his own supply of lumber, and doing a large part of the work with his regular farm help, Mr. Finch was able to build a barn that would otherwise have cost five thousand dollars for about half that amount. This shows the wisdom of preserving a good-sized timber-lot on the farm. The cow and horse stable is in the basement of the barn. Through the center is a driveway, and on both sides of it there are cement gutters. All the manure is saved by the use of absorbents and is drawn out and spread every day in winter.

On the second floor are the carriage-room, granary, tool-room and workshop, and on the third, three large bays for hay. It is a double over-shot barn, having bridges from the ground to this floor. A hay-wagon can be drawn in at one end of this floor over the bridge, and driven out after unloading over another bridge. Nearly all the hay goes down the bay, not up. The threshing-machine, horse-power and corn-cutter are on this same floor. The ensilage corn is cut on this floor, and also goes down into the one-hundred-ton silo. On this floor, also, grain is unloaded and conveyed to the stables below by chutes. It will be noticed how Mr. Finch makes gravity work for him. At the entrance of the basement is the milk-house with a supply of spring water.

"Willow Park Farm" the place is named, because of a park near the house. Farmers who wish to keep their children interested in the work of the farm, could learn a good lesson here. Mr. Finch at considerable expense made his little park, with flower-beds, swings and rustic seats, and the boys' play-ground, where they can play croquet, base-ball, tennis, etc., with their friends. They also have a tent there to sleep in on hot nights. The recreations boys like best are provided for them, so there are no inducements for the boys to go away from home.

Mr. Finch believes that the farmers should enjoy the best of everything, so has not neglected to provide for family use orchard fruits, small fruits and a vegetable garden. He has a very comfortable residence, pleasantly located. The telephone and rural delivery place him in quick communication with the world. About two miles from his farm is a railroad station and village, with churches, a good school and several stores. I mention these because the conditions of living in this instance are typical of much of the present farm life in the best parts of the dairy sections in New York.

W. H. JENKINS.

Another View of the Big Barn, as Described in Accompanying Article—the Silo a Prominent Feature

Cement Hog-Floors

THAT cement hog-floors are lasting and easy to keep clean and dry none will question. But they must be managed correctly or their drawbacks are almost as many and as great as those of the ordinary floors. In the first place the cement floor must be so built that no water can reach it from below. It should slope slightly so that thorough drainage will be always effected, for a cold, damp cement floor is a menace to the health of hogs.

Another drawback to be carefully guarded against in cement floors is their liability to cause bone and muscular ailments among the hogs, especially in the legs, shoulders and hips. Cement hog-floors should be used only for feeding and sleeping purposes. Arrange so that the hogs can run in a lot and be off the cement floor most of the day, as their joints and muscles are likely to be seriously affected by walking very much on the firm, unyielding cement.

Still another and more important item to be considered in connection with the cement floors is their adaptability at farrowing-time. Where a sow farrows in a house with a cement floor her bedding will be all in one corner of the building, where she invariably collects and piles it. After the pigs are born it seems to be an inbred characteristic for them to wriggle about and crawl off into a corner. The arrangement of the average nest does not prevent them from doing this, and upon reaching the bare cement floor it is an easy matter for them to slide away from the warm nesting, with the result that the cold floor quickly chills them to death.

To guard against this occurrence it is advisable to arrange a board-slat frame that will rest on the floor and yet serve to hold the nesting in place and prevent the pigs from crawling out on to the cement. A lighter, more durable and equally satisfactory frame can be easily made at small cost out of poultry netting or common hog wire fence. Nevertheless, in any and all cases, one should keep a close watch of the sows at farrowing-time, as there are many accidents that could occur which would cause the unnecessary loss of several promising pigs by chilling.

M. COVERDELL.

When to Dry Off a Cow

Cows that go dry of their own accord are generally unprofitable for dairy purposes. They should be dry six or eight weeks before calving, but they should be made to dry off. A good cow should be giving at least sixteen pounds of milk per day when the drying process is begun.

Ten weeks before calving cut off all cake and meal from the cow and, if in winter, roots or silage. After reducing the feed for a week, milk her only once a day for a week and the next week every other day. Then stop, for if milking is continued the cow is bound to respond. Sometimes, two or three days after milking has been entirely stopped, it may happen that the udder will cake a little; in this case, milk a little, but generally nothing of this sort occurs. Six weeks previous to calving, the cow should be quite dry.

Many farmers, however, continue to milk until within four weeks of calving. The objection to this practice is that at four weeks the cow has begun to freshen, and stopping to milk at this time, when the new milk is forming, is almost certain to result in trouble. If a cow is not dried off sooner than four weeks before calving, it is better to continue milking the remainder of the period.

W. R. GILBERT.

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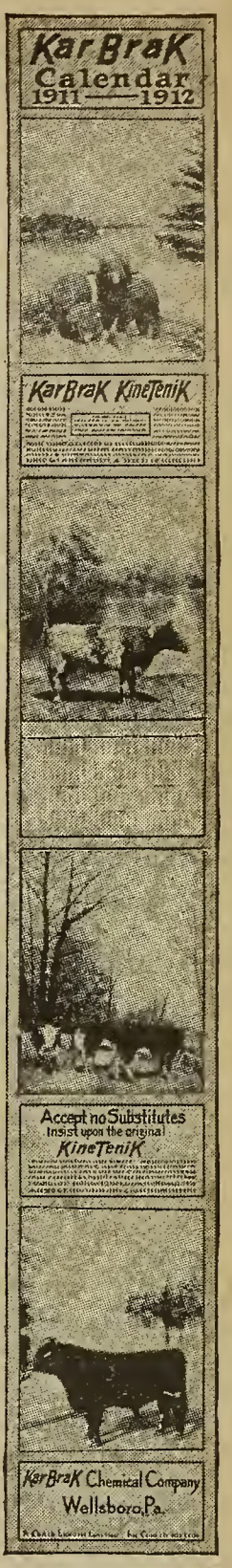

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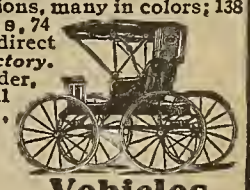

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We will tell you just what the lameness is, and how to relieve it quickly. **Absolutely no charge. Write today.**

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Live Stock and Dairy

To Get Healthier Calves

WITHIN the next sixty days millions of cows will come fresh. The amount of milk and butter-fat yielded by the cow during her period of lactation is largely governed by the feed and care she receives during the last four or six weeks of the gestation period.

Many cases of abortion are due to a lack of proper care and feed during this important period. Cows should be well housed in warm, well-ventilated, dry barns and not subjected to changeable weather and the excitement of mistreating; nor should they be compelled to secure the greater amount of their food from the stalk-field or be compelled to drink ice-water from the creek.

On the other hand, cows should receive a sufficient amount of exercise. It is well to keep them stabled during the night and allow them the run of a large barn-yard and gain the advantage of the sunshine during the warm part of the day. When cows are producing milk in large quantities, there does not seem to be a great demand for exercise. This is probably due to the fact that the cow producing large amounts of milk secures a great amount of exercise in doing so. During the last two months of gestation, however, the cow is dry or nearly so, and it is altogether advisable to permit her to secure her exercise from another source.

Stinted Cow, Stunted Calf

To believe, however, that because the cow is giving little or no milk she does not deserve or need much feed is a very mistaken idea. There is no time when so much care should be taken in supplying the cow with food in the proper amount and of the proper character. During this time the unborn calf is making its greatest growth, which is almost entirely of muscle, blood, bone, hair, hoof, etc. Experiments teach that beyond a doubt these portions of the animal body are made entirely of that constituent termed protein, which is found in large quantities in oil-meal, bran, gluten feed, brewers' grains, beet-pulp, distillers' grains, clover-hay, alfalfa-hay, cow-peas, soy beans and other legumes. On the other hand, this constituent is found to be greatly lacking in corn, corn-fodder, timothy-hay, silage and corn-stover.

Cows compelled to rustle for their feed and subsist entirely upon these latter feeds sometimes abort because there is not sufficient nutriment for maturing the fetus. In other instances, the calf comes into the world puny and weak and may be termed a living abortion, predisposed to calf cholera, calf scours and other diseases so uumerous in dairy herds. Stunted on the start, it never lives long enough to fully outgrow the effects occasioned by the lack of embryonic nutrition.

Care Now Pays Double

Therefore, at this season of the year, cows due to freshening before grass comes should be provided with the opportunity of sufficient exercise during the warm portions of the day, they should be stabled at night in the proper kind of a barn. the water they drink should have the chill taken from it and they should be supplied with all the leguminous hay, such as that made from clover, alfalfa, sweet clover, cow-peas or soy beans, they can eat, and in addition to this they should be fed a grain mixture consisting of two parts corn, two parts oats, two parts bran and one part oil-meal.

The amount of this food they should receive daily should be governed by the condition of the individual cow. If poor in flesh, she should be well fed and a daily ration ranging from three to fifteen pounds of this grain mixture, fed in conjunction with the clover-hay, is to be advised.

During the winter months, all farm animals should be provided with a succulent food and the pregnant cow is not an exception to this rule. For this reason corn-silage is a choice feed and as much as they will eat should be supplied in conjunction with the remainder of the daily food ration.

Cows thus properly cared for will not only produce stronger and more active calves, but will also be in a stronger and more vigorous condition when they freshen. They will make up greater udders, produce more and richer milk and milk more persistently throughout the year than though they freshen in a half-starved, poor and emaciated condition.

HUGH G. VAN PELT.

The following medicated salt is recommended by Dr. C. D. Smead as a helpful safeguard against the parasite that causes nodular disease of the intestines in sheep. It is also effective against other intestinal worms that afflict sheep. Mix well two pounds of powdered charcoal, ten pounds of common salt, twelve ounces of powdered worm-seed and eight ounces of dried sulphate of iron. Place this where the sheep can have free access to it. There are several ready-mixed compounds on the market that answer the same purpose.

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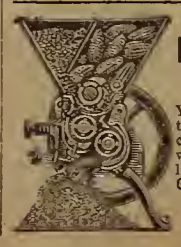

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Live Stock and Dairy

The Stallion's Disposition

FEW of us, in breeding a mare, take into account the stallion's disposition, yet to a certain degree that characteristic is just as likely to be transmitted as any. It is a well-known fact that many stallions have a reputation for siring colts that are hard to handle, hard to break and of a generally mean disposition. In a carriage horse this is a particularly bad feature, for though we like an animal with plenty of spirit, it is mighty unhandy to have one that we must watch all the time.

A treacherous animal is a bad investment even though he may show the best of conformation and breeding. After all utility is the main consideration and in many cases if you can get the style, action and conformation to a good degree in a stallion that is slightly inferior to one of a mean disposition, then, I say, take the one that is not breachy. Of course, do not understand that one should

A Gentlemanly Stallion and His Boss

breed to a poor individual simply because he is not a bad actor.

The same is true of draft animals though not to such a marked degree. However, it must be taken into account that many of the draft-horse misfits are used for express and other delivery work and that a runaway cannot be used in that kind of work. Also, on the farm we like a team that will stand without hitching once in a while.

The illustration shows an excellent draft sire that combines several draft characteristics. That he is gentle the four-year-old boy beside him proves. The colts got by this stallion are not without spirit, but they are not breachy. CLYDE A. WAUGH.

Why Milk Should be Clean

THE production of market milk is one of the most rapidly-growing industries of this day. The demand for milk does not diminish at any time, but is steadily increasing. Because of the limited amount to supply the need, prices in large cities have soared to a much higher point than that which has existed in the past years. Yet milk is still to be considered the most economical and, when pure and undefiled, the most wholesome and easily digested of all foods of animal origin.

On the other hand there enters the statement that milk in order to be wholesome and easily digested must likewise be clean and pure. It must be free from dirt visible and invisible. Dirt in itself might not be of great injury, but the presence of dirt implies the presence of dangerous micro-organisms. There is no food which furnishes more favorable conditions for the growth of bacteria and which is subject to as much contamination during preparation as is milk.

Milk may carry disease germs such as the organisms causing tuberculosis, typhoid fever and diphtheria. It, therefore, may be highly dangerous when subject to infection with such germs. Aside from this power of carrying disease, there is the more important fact that an excessive number of bacteria when present in milk may, even though they are not specific disease germs, cause derangement in the digestive tract, especially in the case of infants. Dirty milk when fed to infants may have in place of the action of a food the action of a poison. Investigators have reckoned that one third of all the babies born die before they are one year old, and that one fourth of the total deaths are due to bowel and stomach disorders, of which dirty milk is one of the principal causes.

Cleanliness Pays Dividends

The contamination of milk is to be discussed not only from a hygienic standpoint, which is the phase considered in the foregoing paragraphs, but from a standpoint of general cleanliness as well.

The dairyman having the reputation for producing the cleanest milk should get the best price for his product. Clean milk will not sour as quickly as dirty milk. When we do not consume milk in its raw state, we generally make from it butter, cheese and other products. The value of butter and cheese depends upon their flavor. Flavor depends upon the cleanliness of the original milk. Dirty milk, therefore, means poor flavor and decreased value, while clean milk means improved flavor and increased value. The yearly amount of butter produced in Iowa is approximately one hundred million pounds. If churning clean cream from clean milk should add one cent to the value of each pound, Iowa creamerymen would be enriched one million dollars and in turn be able to pay higher prices for cream, all of which shows the profit of carefulness most admirably.

The general cleanliness standpoint is not the same as one of hygiene and economy. It is rather one in which the wholesomeness of milk as a food is considered. One would rather eat clean food than food produced under undesirable conditions, not merely because the unclean food might cause sickness, but simply for the sake of cleanliness. It is not with a feeling of pleasure that the consumer upon emptying his glass of milk finds resting upon the bottom of it a quantity of sediment which might better have gone to enrich the fields.

Clean milk is not an Utopian ideal of dreamers. It can and must ultimately be produced wherever dairying is followed. It will not come necessarily as the result of a vigorous reform movement, but as the result of the realization on the part of producers that they have under their care a human food as well as a source of profit. They will then become as careful in its preparation as is the good housewife in preparing her meals. She does not allow the floor to be swept while the biscuits are being made, nor will the dairyman allow dust-raising operations to be carried on in the barn while milking. The housewife washes the dishes after each meal and the dairyman will see that it would be fully as permissible for her to omit this operation as it is for him to neglect the washing of the separator after each usage. Other undesirable practices will succumb in like manner. JOHN GORDON.

A Nebraska reader makes this suggestion: "Have you any small pigs that are scrubby looking? Put them in a roomy, dry, warm pen and, instead of letting all the meat-scraps go to the flea-bitten dog, mix them with a quart of milk for each pig and a tablespoonful of oil-meal and give the mixture to them warm from the stove."

A Michigan reader sends in the following suggestion: "I have found this a labor-saving trick when feeding turnips, swedes and beets to sheep. Cut them up just when you begin to feed them; but as soon as the sheep learn to like them you can give the roots whole and they will go right on eating them. That gets root-cutting down to an easy job. The only sheep you will have to cut roots for will be the young ones that have lost their nippers."

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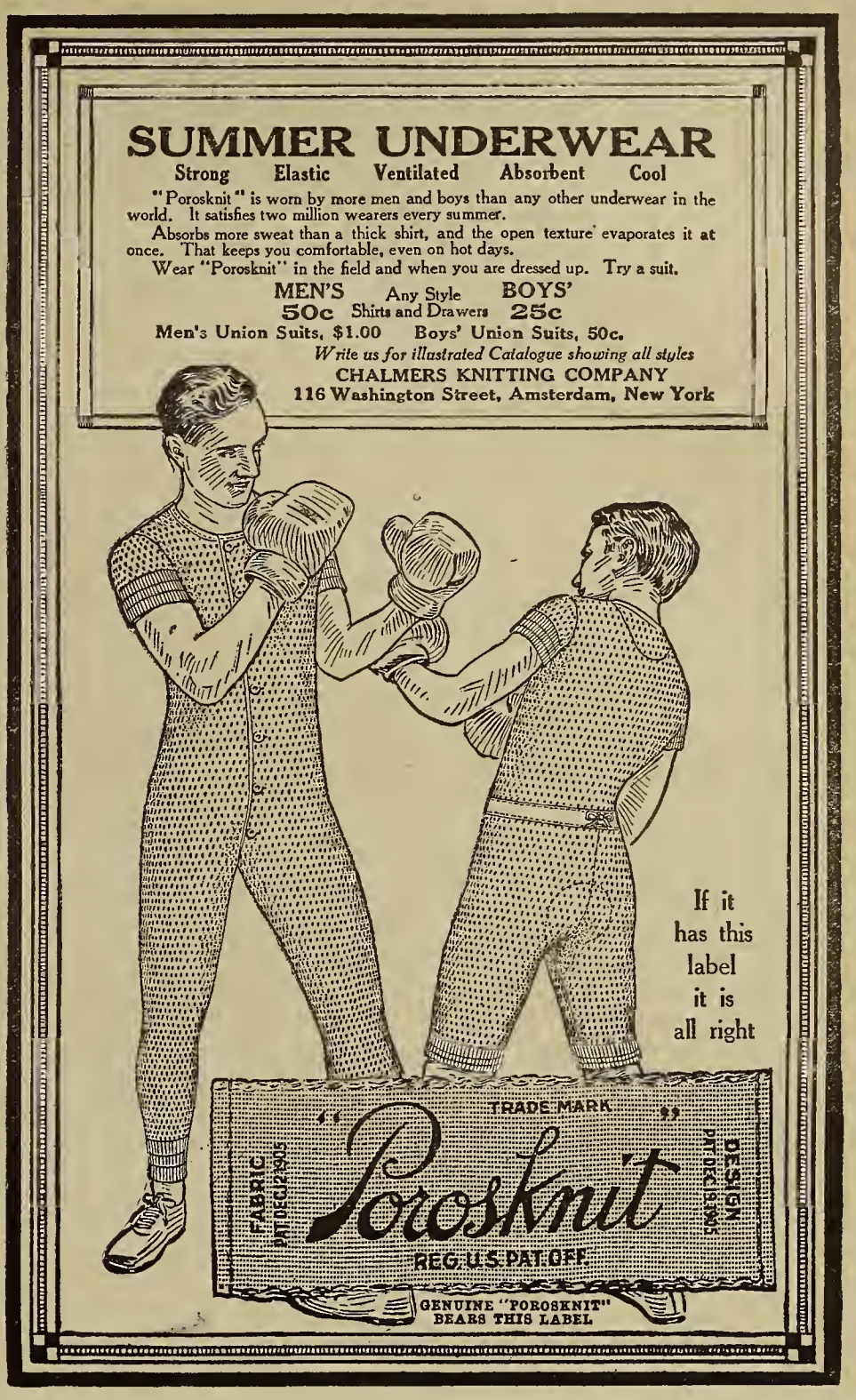
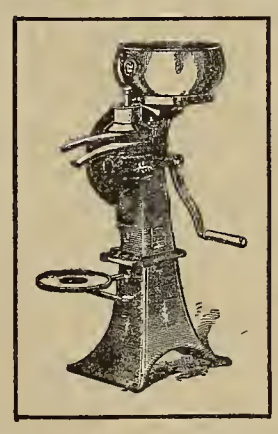


Trade in Your Old Separator for a New DE LAVAL

More than 15,000 users of inferior and worn out cream separators of various makes traded them in last year on account of **new DE LAVALS,** and doubtless there are many more owners of such machines who will be glad to know that the DE LAVAL Company still continues to make liberal "trade" allowances for them.



While these old machines have little actual value to the DE LAVAL Company, as the machines thus taken in trade are broken up and "scrapped" for old metal, such exchanges afford a practical example of the difference between good and inferior separators, and add to the prestige of the DE LAVAL in the neighborhood.

Now that you will soon be milking more cows, why not take advantage of this liberal offer? **See the nearest DE LAVAL agent,** and he will tell you how much he can allow on your old machine toward the purchase of a new DE LAVAL. If you don't know a DE LAVAL agent, write to the nearest DE LAVAL office giving make, number and size of your present machine, and full information will be sent you.

Important to Users of Old DE LAVAL Separators

While DE LAVAL machines of ten or fifteen years ago are much superior even to present day machines of other makes, during the past four or five years many improvements have been incorporated in the present DE LAVAL machines that make them simpler in construction, easier of operation and more effective in skimming.

Liberal trade allowance will be made by any DE LAVAL agent on your old DE LAVAL toward the purchase of an up-to-date style. It will pay you to investigate. Any DE LAVAL agent will be glad to explain the new DE LAVAL improvements, or a DE LAVAL catalog illustrating and describing the construction of latest styles and sizes will be sent upon request to nearest DE LAVAL office.

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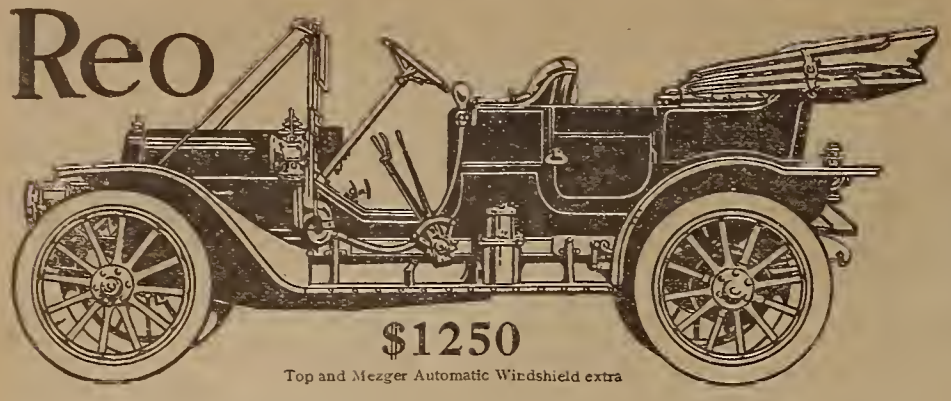

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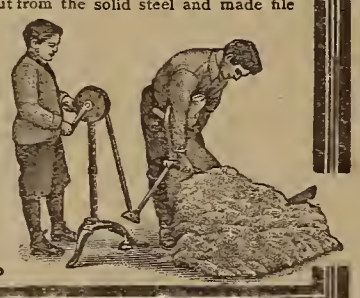

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"The House that Pays Millions for Quality"

(51)

Live Stock and Dairy

To Prevent Sore Shoulders

It is about time to bring out the horses for work on the plow, and that after several months of idleness. The first care is in getting a collar that fits, and one of the right material. It is a mistake to put heavy pads on the collar; a hard leather collar is best and coolest in warm weather. There is a metal collar sold that has proven satisfactory, but these collars must fit perfectly.

Horses should not be put at hard work suddenly. They should first be hitched up and worked for a part of the day in early spring. The shoulders should be bathed with salt-water twice a day for the first week after beginning steady work. This toughens the skin and keeps it free from dirt. Cleanliness should be observed throughout the year, for dirt and ill-fitting collars are the source of all sore shoulders.

If the shoulder should become sore, never use vaseline or grease of any kind while working the animal. As soon as the harness is off at night, however, wash clean and apply carbolized vaseline or other good salve. A sore neck is something hard to cure. Sulphur dusted over it every night is the best remedy I have found. Short metal pads to fit on top of the neck just under the collar are of much benefit in some cases, as they tend to prevent chafing. H. F. GRINSTEAD.

Thoroughbreds demand more than "scrub" care.

Kindness is a balanced ration, the value of which the best horsemen fully appreciate.

Placing a pure-blooded sire at the head of your herds and flocks is like putting a trusty general at the head of an army—for he is the leader on whom rests the glory of victory or the disgrace of defeat.

"Pinto," Not Arabian

A HORSEMAN in Utah inquires as to the probable breed or origin of his spotted stallion which seems to be a common Western type and answers the following description: White with black spots, mostly on the hips: weight, ten to eleven hundred pounds; action good; general appearance handsome; commonly called "Arabian" by local horsemen of that district.

I judge from the description of this horse that it has the two colors in large patches. If so, he is of the kind known in different sections as the "calico," "patch-work" and "pinto." They are of no kin and have no similarity to the Arabian. They are believed to be a "sport" or "happen-so" among the descendants of the horses first brought over by the Spanish conquerors. A strain of that color probably runs through the breed and occasionally breaks out. They are not, as far as I am aware, a distinct breed, though undoubtedly having the tendency that all horses have in greater or less degree to transmit their color to their offspring.

Any physical peculiarity, like an unusual color, that enters into the component elements of a breed is almost certain to reappear some time, and animals that thus revert or "take back" will very easily fix the peculiarity and make it permanent. Thus if a calico horse is *inter*bred and *in*bred, a distinct breed of that color will very soon result.

This principle is an important one in the development of new breeds of any of our domestic animals and was recognized and made use of at a very early date. Jacob made use of it in establishing his breed of spotted and speckled cattle and the Biblical account of his stock-breeding given in the thirteenth chapter of Genesis is very interesting reading. DAVID BUFFUM.

If you want to give your horses a real resting-time at noon, slip the harness off and rub them down a bit when you come in from a hard job. Takes but a minute and it will do the team more good than all the hay and grain you feed them.

A big department-store with its hundreds of clerks and immense assortment of goods or a great factory costing thousands of dollars is brought right into your home when you order a catalogue from the advertisers in FARM AND FIRESIDE. It tells you all about the articles offered for sale. So if you need any of them, it's a simple matter to make out an order and the goods are delivered to your door. Many people find this method of shopping much more convenient than going to town. But if you prefer to see the goods you order, write for the catalogue anyway, then you will know about the articles and call for them by name at your dealer's.

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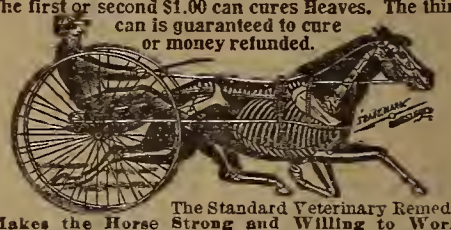

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Farm Notes

Making Manure Go Further

THE stable-manure problem comes up for solution every winter. Just how to care for and apply the stable manure in order to get most out of it with the least amount of labor is a rather difficult problem. In a sense each farmer must solve the problem for himself, as it is a question that requires a consideration of local conditions and crops. If the manure is to be applied to meadow-land, the sooner it gets to the soil, the better, as it not only furnishes plant-food, but it also helps to protect the sod from the severity of the winter. It is a mulch and also helps to keep the soil warm. If it is to be used on land intended for corn, it is best to have the manure out on the soil.

Some farmers are afraid of loss from leaching if the manure is put out during the winter, but most soils are hungry for plant-food and will hold the valuable parts of the manure until the crop can take them up.

I have made a practice of applying the stable manure to land intended for corn, broadcasting it over the soil during the winter months, then turning the soil early in the spring. I have noticed that I grow the best corn on the parts of the field where the manure is applied earliest in the winter.

If the manure is intended for the garden, it is best to have it well rotted and it may be stored away with but little loss if some acid phosphate is mixed with it.

The acid phosphate not only prevents the escape of ammonia, but it also helps to balance up the manure by adding needed phosphoric acid. The manure contains only about one half as much phosphoric acid as it does of either potash or nitrogen. A large part of the phosphoric acid taken from the soil goes to market in the corn, wheat and oats sold, so there is usually more phosphoric acid needed in the soil than there is of either potash or nitrogen.

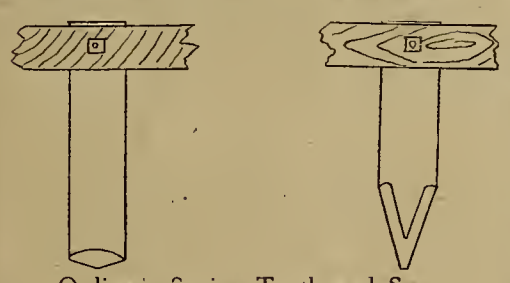
The phosphoric acid may be mixed with the manure, or else when untreated manure is applied to the field as made, the phosphoric acid may be applied when the crop is put in. I find that I get much better results if I apply acid phosphate on land where manure also is applied than I do where no manure is applied. I also find that the stable manure does not give nearly as good results if used alone as it does used in connection with acid phosphate.

A. J. LEGG.

Harrowing Experiences

IT IS a common experience among alfalfa-growers to have the fields grow foul with weeds and for the stand to get thin. This puts an uncomfortable proposition before the farmer, for he hates to let the field go into another crop, and at the same time it does not pay to keep the field in alfalfa, when it does not return a good yield. But it is easy to remedy the matter.

In a case of this sort one can run over the field with the disk. After this, run over the field with an ordinary spike-tooth harrow. This loosens up the soil and at the same time destroys the weeds. As a rule it does no damage to the alfalfa. At times it destroys a few of the crowns, but this damage is so



Ordinary Spring Tooth and Same Narrowed at Point

small that it is not worth mentioning. If it is simply a case of weeds, this treatment will remedy the matter. If the alfalfa is thin, one can sow a small amount of seed on the very barren places and drag it in with the spike-tooth.

Lately I have heard of using a spring-tooth harrow for this work. To suit the job the teeth were narrowed down at the tips, as shown in the illustration. Then they pass by the crowns without any injury to them.

On our own farm we have saved several fields of alfalfa by this treatment. One of the times we did the harrowing in the middle of September when the ground was very dry. Another time was during the middle of August just after a rain, and when there were fair indications of another so that we thought that there would be a fair chance for the seed to come up. When the ground is very dry in a case of this sort the alfalfa does not seem to be hurt, while the weeds are hit pretty hard, so if the work is done simply to eradicate weeds I would advise doing it when the soil is dry. But if you sow alfalfa-seed at the same time, there must either be a fair amount of moisture in the soil or a rain must come to your aid if you expect the seed to come up at all.

CLYDE A. WAUGH.

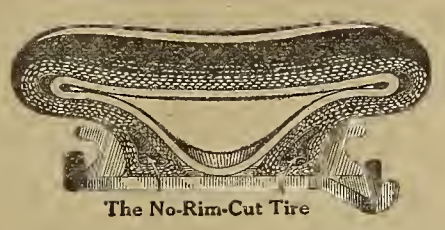
Don't Buy Auto Tires That Hook to the Rim

Motor car owners now are using 500,000 Goodyear No-Rim-Cut tires. They are so popular that our tires sales trebled last year.

And 64 leading motor car makers have contracted for them this year.

These are the hookless tires—the tires that can't rim-cut—the tires 10 per cent oversize.

They are saving motor car owners millions of dollars by cutting tire bills in two.



The No-Rim-Cut Tire

The Ordinary Tire

These two tires—the No-Rim-Cut and ordinary—are fitted on the same rim. This is the standard rim for quick-detachable tires, also for demountable rims.

The difference is this: The removable rim flanges are set to curve outward when you use a No-Rim-Cut tire. They must be set to curve inward—as shown in the picture—when you use an ordinary tire.

These removable rim flanges can be set either way by slipping from one side to the other. So Goodyear No-Rim-Cut tires involve no change in the rim.

Rim-Cutting Impossible

The No-Rim-Cut tire, when deflated, comes against the rounded edge. Rim cutting is simply impossible. We have run these tires flat in a hundred tests—as far as 20 miles—without cutting the tire in the slightest.

The ordinary tire—the clincher tire—needs to be hooked to the rim. The rim flanges must be set to curve inward, to grasp hold of the hook in the tire. That is how old-style tires are held on.

Note how that hooked flange digs into the tire when deflated. That is what causes rim-cutting. That is why a new tire may be ruined by running a few hundred feet on a deflated tire. That rim-cutting usually adds one-fourth to one's tire cost.

How We Avoid It

We have invented a tire with an unstretchable base. We vulcanize into the base 126 braided piano wires. Nothing can possibly force this tire off until you unlock and remove the rim flange.

When this tire is inflated the braided wires contract. The tire is then held to the rim by a pressure of 134 pounds to the inch.

That is why hooks are not needed. Not even tire bolts are needed. The tire can't come off because the base is unstretchable.

We control this feature by patent. It is the only way known to make a safe, practical tire which doesn't need to be hooked to the rim. It is the only sort of tire which you will buy when you know the facts. For the worry and damage of rim-cutting is now an utterly useless waste.

GOODYEAR
No-Rim-Cut Tires

Tires 10% Oversize

Goodyear No-Rim-Cut tires are made 10% oversize. The flare of the tire permits that when the rim flanges turn outward.

We give you that 10% oversize without any extra cost. That means 10% extra carrying capacity. It means, with the average car, 25% more mileage per tire.

Most tires are overloaded by the extras one adds to a car. The top, glass front, gas tank, extra tire, etc., load the tires beyond the elastic limit. That is the cause of blow-outs. It is the cause of one-fourth of all tire expense. This oversize avoids that.

These No-Rim-Cut tires—these oversize tires—now cost the same as other standard tires. They used to cost one-fifth extra.

These two features together cut tire bills in two. You can get them without any extra price by insisting on Goodyear No-Rim-Cut tires.

Our new Tire Book tells scores of things which motor car owners should know. Write us to send it to you.

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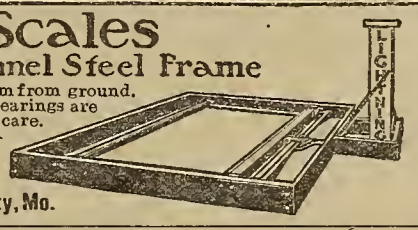

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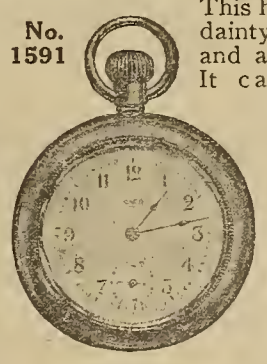
No. 1591



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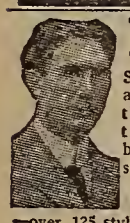

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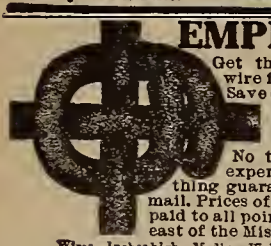

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It turns easy, clips fast and will last a lifetime. This

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There is 6 feet of new style, easy ruuning flexible shaft on this machine and the famous Stewart single tension nut clipping knife. Price of machine complete is only **$7.50**

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Before the spring work begins, clip off the long winter coat of hair. Your horses will sweat less, they will dry off quickly at night and get better rest. They will get more good from their feed, feel better, look better, and do better work.

Clip Cows

Clip the flanks and udders every three or four weeks. It is easy then to clean the parts before milking. Insures clean and sanitary conditions. One large dairy company recently purchased 100 Stewart machines for its stables.

Farm Notes

An Instance of "Farm Repair"

NOT long ago, ex-Governor Hoard of Wisconsin purchased, for a small consideration, a worn-out farm near Fort Atkinson. The former owners of the place had raised wheat and sold it until the soil was so depleted that the crops were hardly worth the harvesting. Its owners were very glad to dispose of it and no doubt they thought they had driven a sharp bargain by unloading their barren acres.

Now, ex-Governor Hoard happened to be a pretty good farmer, as well as an expert dairyman, and he knew just how to restore the fertility of that worn-out farm. It took him several years to do it, but he has succeeded in making it one of the most productive and fertile farms in the state.

The first thing he did was to put on the farm a big herd of dairy cattle. He had to buy feed for them at first, but he selected them for their milking quality, and they paid with their product for the food that they consumed, and the manure that they made soon began to change the character of the soil of that worn-out farm.

Bumper crops of corn, timothy and alfalfa were grown where little or nothing was raised before, much to the surprise of the neighbors, and all that was raised upon that farm was fed to his rapidly increasing Guernsey herd. Three crops of alfalfa were grown in one season where a scanty growth of grass grew before.

Manure . . . should be hauled to the fields as soon as possible

Almost any man could have done as well if he had gone at it in the right way. Farmers must feed more of their products upon their farms, or in a few years more their land will become impoverished, unproductive and unprofitable. Manure should not be allowed to ferment and leach in the barnyard, but should be hauled to the fields as soon as possible.

Landlordism has caused the impoverishment of many farms. Not long ago we visited a large farm in northern Illinois that had been leased several years for dairying. The tenants had been either too indolent or indifferent to remove the manure from the barn-yard, where it lay in unsightly heaps several feet high, evidently the accumulation of several years. The soil was impoverished and the place was for sale at half the price it was valued at twenty years ago.

EUGENE J. HALL.

Reciprocity Between Fowls and Fruits

WE OFTEN begrudge the bit of land set apart for the poultry, and on this account often restrict them to too small runs. This is not practicable because there are a number of crops that can be very successfully raised on the chicken-lot, not only increasing the profits on this bit of land, but adding to the comfort and health of fowls. We have a yard consisting of one half acre of ground. On the upper end of the lot around the chicken-house we have planted plum-trees, red raspberry-bushes and two grape-vines. The lower half of the lot has been given over to early potatoes. Last year we raised enough on this patch to supply a family of eight for daily use during the summer, besides having several bushels to sell at early market prices.

These potatoes were planted deep so that the chickens would not scratch them out. The soil was enriched by the droppings taken from under their roosting-places as well as from the droppings during the day. Little hoeing was required, since the fowls kept the soil stirred up about them; and although the bugs almost destroyed my potato crop in the garden close by, I did not see a bug on these vines, the fowls no doubt eating the eggs before hatched.

As is well known, plum-trees are especially affected with pests that sting the fruit and cause it to fall off, and unless one does a great deal of spraying it is difficult to raise a crop. Plum-trees planted in the poultry-yard will not need to be sprayed to insure a crop, since the chickens will destroy the pests. Every plum year we sell bushels of fine plums off the trees grown in our poultry-run, besides having all we need for ourselves.

Raspberry-bushes make ideal shade for the chickens. During the heat of summer days fowls can congregate under these; and even if they do not give any fruit they will be a paying investment, helping to conserve the health of the fowls. Shade is absolutely necessary in our poultry-runs if we wish to have success.

We planted the bushes of the red raspberry, since they have a taller and more upright growth than the other varieties. If the chickens show a tendency to eat the fruit, as they sometimes will, the bushes can be covered with fly-netting while ripening.

Grape-vines take up little ground space and can be trained on trellises or over the house if desired. Chickens seem very fond of elder-berries and as they are always a sure crop, I have a few bushes planted in out-of-the-way places for the special benefit of the fowls and they seem to enjoy them. Besides the fruit and potatoes produced, this plan renews the soil and provides the fowls with plenty of shade. M. M. WRIGHT.

Bits of Dry-Farming Lore

Hull-less barley, though much exploited for dry-land farmers, falls down in the respect that 'hoppers eat it before they will other grain, and also gives trouble from lodging and a lower yield than the common bearded type.

Emmer has given fine results for the whole district, except that, when it was late in maturing, the 'hoppers made it an unprofitable crop. The western edge of the district grows it because barley and oats fail. This grain has about three fifths the feeding value of corn pound for pound and doesn't have to be ground. It is also well relished.

Those that are on the point of buying shallu at thirty to forty cents a pound should read the Bureau of Plant Industry's Circular No. 50 on shallu before sending in their orders. I notice that several firms are listing it at thirty cents or more a pound, while as a matter of fact it is worth nearer seven or eight cents—the price a Texas firm asks, in large lots. The premature frost of last August kept me from getting a full case of experience with shallu last year. One thing we do know, the bureau and the experiment stations are improving the durras, Kafir and the canes along their special lines rather than shallu along any line. C. BOLLES.

Dr. HESS DIP and Disinfectant

—one part dip to 70 of water—meets the United States Government requirement as an official dip for sheep scab. It has proved invaluable to American sheep raisers as a *preventive* and *cure* for this costly disease.

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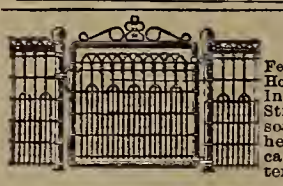

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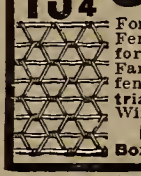

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Farm Notes

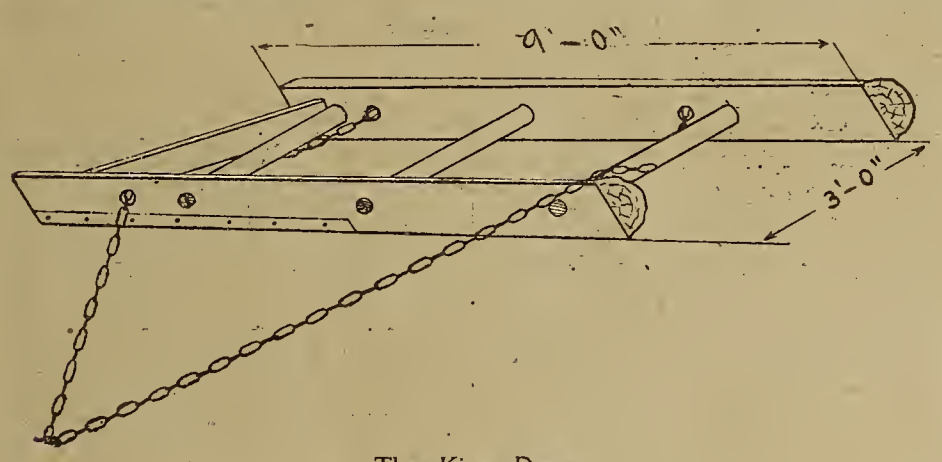
Everybody's Road-Maker

Not for long will Iowa "have anything on" Tennessee in the matter of home-made good roads—not if the Memphis-to-Bristol Highway Association can help it. Last summer, you remember, Iowa farmers along the river-to-river road turned out with road-machines, King drags and gumption to smooth and surface that road in the most approved style, each contributing his own bit to the state-wide job.

The Memphis-to-Bristol Commission is organizing Tennesseeans for the purpose of drawing a similar streak of good going across the landscape of their state, some time next August. They are asking farmers, doctors, merchants—everyone who uses the roads—to coöperate with them, individually or through their clubs and other organizations, in pushing the good work along. They have asked FARM AND FIRESIDE to help, by reprinting D. Ward King's own directions for making the split-log drag he invented. We are glad to do this, not only for our Tennessee readers, but for all our readers. Says Mr. King, speaking from experience: "The split-log drag has its work in the rocky, stumpy East as well as in the prairie and gumbo soil of the Mississippi Valley. . . . The drag was used on shell roads in Maryland with just as good effect as I ever had at home (in Missouri)."

This is a scrap-book article—a text to keep for reference and inspiration.

The drag should be made of light wood. For ordinary teams (horses of twelve hundred pounds weight) the slabs should never be over seven feet long. The logs or planks may be from eight to twelve inches across. If a man has a heavy team (horses of fourteen to eighteen hundred pounds), he may use a drag eight or nine feet long.



The King Drag

Don't be particular about the character of the stuff you use. A red-cedar log is perhaps the best. It should be carefully split, and the largest and most solid slab used in front. Have the heavy ends placed to travel in the ditch, and eighteen inches from the end bore a two-inch auger-hole in the center of the face of the slab. Then go to the other end of the slab and, if the wood is solid, bore a hole three or four inches from that end in the center of the slab's face. Now stretch a string from center to center of these two holes and half-way between them bore a third hole.

Bring up the other slab and place it so that the first hole bored will be opposite a point about four inches from its right-hand or ditch end, then bore the three holes. In boring all of these holes, be careful to have the auger perpendicular to the face of the slab, and have each stake parallel with the others. In making stakes, shave them and don't make any shoulder. This gives them elasticity. There is a trick about putting in the brace. Bring the slabs together on the stakes until the slabs are about thirty inches apart. Then wedge the stakes into the front slab. Next mark the point on the stakes to which the rear slab comes and drive it back an inch or so. Then fit in the brace to the ditch end of the drag as shown in illustration, fitting it in the mark. Drive the rear slab snugly into place against the brace then and wedge securely.

Platform and Hitch

By performing the operation in this manner, it is not difficult to get the brace so firmly into position that it will never get away. For earth roads use three and a half or four feet of iron on the ditch end of the front slab. For gravel roads it is best to put a piece of iron almost the full length of both slabs. The platform to stand on should not be nailed to the stakes, but should be nailed to cleats, which should be dropped between the stakes so that the platform will not move endwise. Space should be left between the boards of the platform so the loose earth, that sometimes comes over the front slab, will sift through.

The distance that the doubletree is attached from the drag has much to do with the amount of "bite" that is given the drag. If the doubletree is a considerable distance from the drag, the latter will move more dirt.

The beginner should fasten the clevis for his two-horse evener at such a point on the chain as will make the drag follow the team at an angle of forty-five degrees when it is not loaded. The point at which he hitches, in combination with the place he stands on the drag, governs the slant of the drag. One may even, by sharpening two feet of the ditch end of the steel enforcement and by hitching to it properly and standing at the extreme ditch end, make the drag throw a furrow like a twelve-inch plow. The steel ought to stand only half an inch below the edge of the slab at the dtich end of the drag and at its other end should come up flush with the slab.

My Experience With Potatoes

Each year for the past three years I have used one acre of land, treating it in this way: On one third I put cow-manure, on one third I put cob and coal ashes and the last third I did not treat at all. "Early Ohio" and "King of the Earliest" were the varieties used on each third, and equally thorough cultivation was given. The soil was a good loam with clay subsoil.

The potatoes from the first plot were all of good size, smooth and with very few scabby or small ones. The second plot produced no scabby tubers and few small ones. The third unfertilized plot gave some good potatoes, but a great many small and scabby ones as well. J. F. RAMBO.

Should the Over-Middle-Age Farmer Move to Town?

The contrast between the cost of living in the country, where the farmer can raise or grow his meat, milk, butter, eggs and fruit, and where he dwells rent free, and living in a rented house in town, where everything from a bit of kindling to drinking-water must be paid for with hard-earned cash, has often been clearly drawn.

Lacking interest and a healthy incentive to labor is not conducive to keeping the heart young. Rust devours far faster than labor.

Used to pure air, pure water and exercise in the country, he finds foul odors, filth and disease in the overcrowded city. He may not have the pleasant comradeship of the country, but, instead, mean, quarreling or perhaps cold and unsociable neighbors. His wife, with neither flowers nor garden to occupy her leisure hours, loses her health and discovers nerves.

The ex-farmer wearies of the street corner and longs for old Dobbin and Jim, and the sleek heifers and the fat pigs. His place is taken by younger men and his hopes marred.

When the seed catalogues come, and his heart burns to try this new seed or that potato, it is a vanished dream. Once gone, his slowly gathered tools and acres of a lifetime cost more than he can hope to pay to get them back.

On a farm, even if it is but a part of his former holdings, he can raise vegetables and chickens enough to keep himself and his wife in comparative comfort, with fresh air, pure water and old friends at hand, and ever-changing scenery, and flower and plant life to keep up his vital interest in life.

The farmer that retires to the city is likely to realize too late the truth of the old saying: "God made the country, and man made the town." C. E. DAVIS.

No Better Life

Why should the prosperous farmer not be abreast of the city man in the appearance of his home surroundings and in enjoyment of the comforts and conveniences afforded by modern appliances? Usually, he has more space for a lawn, flowers and shrubbery than his city brother, and can thus produce a more varied and pleasing effect. The telephone puts him in direct communication with the outside world. The R. F. D. service enables him to obtain all the reading matter necessary to keep him posted on all vital topics of the day. The automobile now presents to him an always-ready, swift and luxurious means of transportation. Furthermore, the farmer that plans his work can set aside more time to enjoy these things than the city man, and if he would but avail himself of all his opportunities, we see no earthly reason why he should look with envy upon his city brother. M. A. COVERDELL.

As Important as the Shoe

Before you buy you next pair of shoes find out if they were made by the Goodyear Welt process.

This knowledge saves you all bother about getting value received for your shoe money.

It makes plain to you that the way a shoe is made is the most important thing for the shoe buyer to know.

One feature you want is durability.

The Goodyear Welting machinery has a capacity of 500 tight, strong stitches a minute. Cheap or inferior materials cannot be utilized on these rapid machines. Good materials must be used. Long wear is assured.

No seam or thread from these swift flying needles penetrates the insole. The shoe is left smooth inside. Comfort is assured.

These machines make shoes more durable and comfortable than hand-sewed, but at one-third the price. Economy is assured.

The most stylish shoe is invariably a Goodyear Welt. It has a smarter appearance even than a shoe hand-sewed.

Thus Style, Economy, Durability and Comfort unite in every Goodyear Welt.

Aren't these the qualities you seek? Would you learn how to distinguish Goodyear Welts?

USMC

Your name and address on a post-card brings these booklets without cost:

1. Contains an identifying list of over five hundred shoes sold under a special name or trade-mark, made by the Goodyear Welt process.
2. Describes the Goodyear Welt process in detail and pictures the sixty marvelous machines employed.
3. "The Secret of the Shoe—An Industry Transformed." The true story of a great American achievement.
4. "An Industrial City." Illustrated—descriptive of the great model factory of the United Shoe Machinery Company at Beverly, Massachusetts.

UNITED SHOE MACHINERY CO., BOSTON, MASS.

GOODYEAR WELT

Wanted—Local Club Agents

FARM AND FIRESIDE desires a local representative in every farm community who will devote a portion of his time to looking after renewals and new subscriptions. The work is pleasant and you will receive either Cash Commission or Valuable Premiums. Write to

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Yes, You Do Need It

Every progressive farmer who does not own a Remington Typewriter needs one—needs it to write his letters and orders—needs it to write his records of seed tests, poultry matings and stock breeding—needs it for a score of other uses.

This means YOU.
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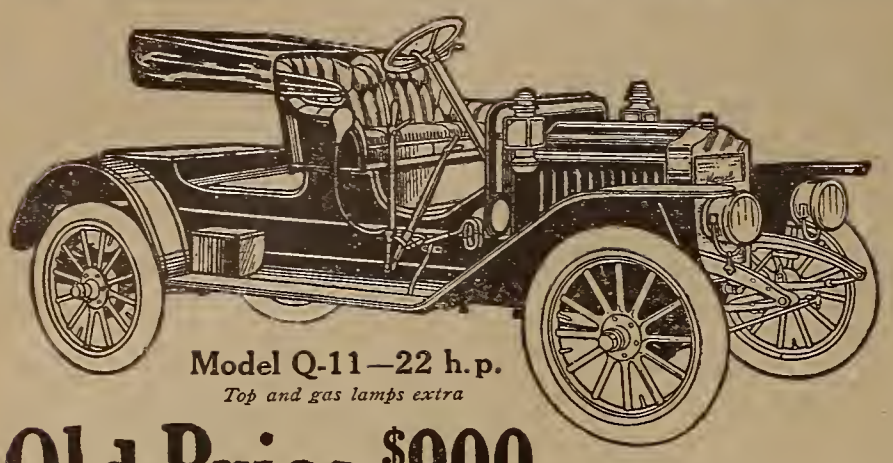

Model Q-11—22 h.p.
Top and gas lamps extra

$750

Including Magneto, 3 Oil Lamps, Complete Set Tools, Tire Repair Kit, Horn and Tube.

Old Price $900

PREVIOUS to January 1st this identical high-powered Runabout sold for $900. It was the greatest seller Mr. Maxwell ever produced. People realized its wonderful value and bought every one we made. Its success has endured because it is built right. During the unseasonable month of November, 1910, $1,125,000 worth of these machines were sold. Everyone marveled. We did ourselves. Most of these machines went to farmers in the Central West, who realized that a machine properly equipped was just as serviceable in Winter as any other time. On January 1st the industry and buying public marveled again when the Maxwell prices were reduced. In the height of our success prices were lowered. Why? Because when the Maxwell joined the United States Motor Company, we promised to give to the public the economies effected by this affiliation. It was able to do so January 1st, and did, although 95% of its cars were then sold to dealers.

You can afford this Car

High-grade, first-class in every particular, it is not only low-priced, but most economical to maintain. This is the car that demonstrated in public test last October, that it can be operated cheaper than a horse and buggy. As a money maker and time saver it cannot be beat. Speedy, with more power than you ordinarily use, it is an ideal Roadster for two. When you need room for four people, you can adjust a surrey seat in a jiffy. For hauling, errands, etc., receptacles can be put on and taken off in a minute. Everything conveniently located, comfortable, first-class and absolutely reliable.

What it means to you

Every farmer really and honestly needs an automobile. He needs it in his business, his family needs it for pleasure, health and recreation. It is the car you have waited for at a price you can afford. It's right in construction, power, appearance; it's simple to operate and easy to care for. It's ever ready in all kinds of weather, never tired, cannot be overworked and gives very little trouble. It costs nothing when not in use, doesn't die of overwork. No feeding or grooming—just a crank and you are off. Your increased earnings will pay for the car in 3 months. You'll have dividends in health, recreation besides.

Maxwell

Don't Fail to Investigate this Car

If you consider buying a car, this one deserves your closest attention. Don't part with your money before you know its wonderful value. At $900 it was the greatest seller ever produced. At $750 it is in a class by itself; it has no equal. After May 1st not one of these cars will be left. Better inform yourself now, and get in a reservation order.

These Books Free

We want to supply you with information on automobiles in general that will aid you in making your motor car investment. We have prepared booklets that tell the story from start to finish. Our "Farm Booklet," "How to Judge an Automobile" and latest catalogue are three books worth reading. They surely will save you money—cost nothing and involve no obligation. Send us a postal. Just say, "*Mail Books.*"

Sale of Maxwells to Date

Sold to Feb. 1, 1911 -	41,273
Sold During Feb., 1911	1,392
Maxwells in use today	42,665

Watch the Figures Grow

MAXWELL-BRISCOE MOTOR COMPANY
(Division of the United States Motor Company)
Gobe Street Tarrytown, N. Y.
Factories: Tarrytown, N. Y. Newcastle, Ind. Providence, R. I.
Member A. L. A. M.

DO YOU WANT SIX HANDSOME EASTER POST-CARDS?

Then this is your chance. We still have a few select sample Easter Post-Card sets left and we want to place one of these sets in the hands of every Post-Card admirer as long as the Cards last. It will be a case of "First Come, First Served," until our supply of sample Easter Post-Cards is exhausted. We are making this offer simply for introductory purposes because we have the handsomest assortment of Easter Post-Cards that has ever been collected. As an evidence of sincerity and to partially defray the cost of postage, we request you to inclose with your letter one 2c stamp, and a set of six of our nicest Easter Post-Cards will be sent you by return mail. Right now is the season for Easter Post-Cards. Better accept the offer to-day, rather than he too late with your order.

SPRINGFIELD POST-CARD COMPANY, SPRINGFIELD, OHIO

BUY THE LOWEST COST ENGINE

MADE. Lowest fuel cost; lowest up-keep cost; easiest on the machine it operates, delivering steadier power than any other gasoline engine, adapting it especially for operating farm machinery, with better results and least waste of grain. Lowest fuel cost for it runs on Gasoline, Kerosene, Distillate, Gas or Alcohol and has perfect lubrication. Lowest cost because it delivers greatest available power per horse. A slow speed, high duty engine. Starts easier and quicker than any other engine, occupies less space, is less cumbersome, with less vibration, therefore adapting it for either stationary, portable or traction use. **IT IS THE POWER CONTRACTOR'S FAVORITE ENGINE.** No engine made has so wide a range of use. **YOU WILL MAKE A MISTAKE IF YOU DO NOT WRITE US FOR INFORMATION.** 1½ H. P. to 5½ H. P. single cylinder. 6 to 20 H. P. two cylinder. 30 to 50 H. P. four cylinder. State your requirements and get our advise.
THE TEMPLE PUMP CO., Manufacturers, 492 West 15th St., Chicago, U. S. A. This is our 58th year.

Fullerton Says—

[CONTINUED FROM PAGE 5]

Also, by the way, he laid out an alfalfa-field into four plats, A, B, C, D. A was just the soil; B had dirt from an old alfalfa-field scattered on it; C had the seed soaked in a bacterial solution; D had the soil wet with bacterial solution. Results: C and D, nothing doing. B, the finest in the land. A came up nicely, but petered out, although patches of green worked over from B. Moral: Inoculate the soil for alfalfa with soil from an old alfalfa-field.

The native says of Long Island soil: "They's noink into it." So he proceeds to put soink into it with commercial fertilizers. Fullerton says he has tried 'em all, all kinds, all strengths, all mixtures, and experiment shows him that stable manure gives best results. I had the figures as to a test of how much better potatoes did with stable manure than fertilizers, but I forget 'em. It was about twice as well. Anyhow, he slathers on the manure, he slathers on the humus, rotted wood shipped from New Jersey, rotted wood brought from Long Island, Canada wood-ashes and lime.

The pages keep stringing out and stringing out, and I can't begin to tell all I want to. Artichokes; they don't amount to much to eat, but people with more money than sense pay fancy prices for them. Double sashes for cold-frames; he can germinate and head lettuces in them and save all the trouble with mats on cold nights. Fruit-trees chock-a-block with the prettiest fruit you ever socked a tooth into, and you can stand on the ground and pick every one of them. Fullerton says there's no sense in growing cord-wood. Tops the trees and paints the wounds. Sprays fall and spring, not with lime-sulphur or Bordeaux mixture; afraid of putting out eyes, darn near did it once; he uses soluble oils; better results; doesn't clog the sprayer.

Funny thing. He has watermelons and squashes and pumpkins and cucumbers and cantaloups all growing in one bed together. I told him that was wrong. I told him they'd all mix in together so's he couldn't tell t'other from which by the taste. He just laughed at me.

"Did that watermelon you had for lunch taste of pumpkin?"

He had me there. Four helpings of watermelon argue against pumpkin taste.

"They won't mix. They won't cross or hybridize. You can't make a watermelon mule. The books may say so, but the facts don't."

Get the Lure

I could write a book about what I saw and what Fullerton said, but I dassent. I'm fairly aching to tell how he digs the holes for his orchard all at once in less than a second, and cheaper than by hand. Dynamite. I tell you what you do. You write to the Long Island Railroad Company, New York, and ask them to send you "The Lure of the Land," which Mrs. Fullerton has written. It is a beautiful book with lots of illustrations in it. You can get it for the asking. That's where some of my money went, money that I paid for transportation and freight. You might as well get the good of it. Go ahead.

Now does this farm pay?

It paid the people alongside that haven't done a tap of work, who are asking one hundred and fifty dollars an acre for land they would have been glad to get fifteen dollars an acre for two years ago. Raising prices on real estate sometimes has the edge on raising crops and it isn't nearly so hard on the constitution.

But does it pay on this investment?

Fullerton says it does. But you must remember that when you start out in a jungle to make a home and a farm you can't expect to be making money in two years when you put in suddenly and all at once what would take a man a lifetime to put in if he had no capital to speak of at the start. Fullerton says that the older Experimental Farm No. 1 pays twenty per cent. on the investment. "It don't do noink o' the koind," say the natives. There you have it. I don't know. I didn't go over the books. I am willing to discount what Fullerton says. He's an enthusiast. He has to be to get work done. The natives are not enthusiasts about anything or anybody. You remember the old chestnut, "I don't want to say anything against the feller, but, between you and me, he's a liar and a horse-thief." So I don't want to talk about my neighbors, but they are as handy with the hammer as anybody I ever saw when it comes to knocking any improved way.

First off it doesn't look as if twenty acres were enough to raise enough of any one of three hundred and eighty different kinds of stuff to make it pay. But then he doesn't specialize on any one crop and ship it in for commission merchants to do as they please with. He has customers, to each of whom he ships a hamper every week. Fine, first-class stuff. No culls. Each thing is wrapped up in waxed paper and comes to the house as fresh as from the vines. They've shipped stuff clear to Paris, France. The hamper sells for one dollar and fifty cents. You can't get the quantity in a New York grocery for two dollars and fifty cents, let alone the quality. The package costs him twenty cents, the express thirty-five. There's ninety-five cents for him. Express charge, thirty-five cents. Parcels post? Parcels post? Did I hear anybody say "parcels post?"

The question of whether Fullerton's farming pays depends more on what he gets for his truck than on what it costs him to make it. If he can get right to the consumer without any intervention of the middleman, and get anything like the prices the consumer has to pay, I should think he would make money.

But say. Don't forget about getting that "Lure of the Land" from the Long Island Railroad Company. It would be a favor to me if you could wring out of them what they have wrung out of me. You might say you were looking around some, and might conclude to settle on Long Island. I don't think that would be a really wicked, sinful story.

The FARMERS' LOBBY.

By Judson C. Welliver

A COMPLETE revolution in the relation of the American people and government to the railroads was brought about by the recent decision of the Interstate Commerce Commission forbidding the roads to increase their rates.

From the beginning of the efforts to control corporations, through the anti-trust acts of states and nation, and through the railroad commission legislation of states and of Congress, there has been no decision comparable in importance with this one.

Competition among railroads has received its deathblow. If you believe in competition among railroads, you will be aggrieved with this decision. I don't believe in it, and therefore I am pleased with the decision.

But there are other aspects. There is the great question of whether the railroads were entitled to have their rates raised. The commission says they may not have the increase. The best evidence that the commission guessed about right is the announcement that the railroads will not appeal.

The decision in this case ought to be read by every farmer and business man in the country. It represents the deliberate conclusions of a body of seven trained students of transportation economics, after thorough study. They discuss impartially the whole railroad situation in this country, and their decisions are thoroughly optimistic. They have no misgivings about the ability of the roads to give service, improve their systems and raise money for future expansion.

A Lid Over the Rate-Raisers

THE railroads placed themselves at a disadvantage when they entered the proceedings. Last summer Congress passed a new railroad bill. Senator Cummins wrote into it, after a long fight, a provision that as to future increases of rates the burden of proof must be on the railroads to show them reasonable, and that no rate might be raised without the express approval of the interstate commission.

When the railroads saw that this provision was going to become law, they determined to raise rates just as much as possible while the right to do so still remained with them. So, before the new measure could become law, railroads all over the country filed new tariffs, extensively raising rates. These new rates would go into effect thirty days after they were filed.

Protest came from all over the country, and the government secured injunctions prohibiting the new rates taking effect. The new burden-of-proof law presently became effective, and the interstate commission, under it, ordered the suspension of all increases pending investigation as to their reasonableness. The investigation closed a few weeks ago, and soon afterward the commission gave its decision. It refused to grant any of the increases, West or East. The South may yet be granted a few. But the cases already decided lay down the principle of government control, which leaves no doubt of the commission's purpose.

In substance, it is now the public policy of this country that railroad rates shall be made by government.

Poverty Garbed in Greenbacks

LAST summer's increase of rates by the roads, at the eleventh hour, looked like a grab. Of course, the railroads explained that they needed the money; awfully hard up; couldn't keep the wolf off the cow-catcher without more revenue. But to the public and the administration it looked to them as if the roads had hurried out to the smoke-house to gnaw off a few choice cuts before the door could be locked.

The burden of the roads' plaint was that they had to pay higher wages, higher prices for steel rails, more money for fuel and supplies. The commission, after hearing them through, decides that supplies and materials have, in fact, not advanced; wages have advanced somewhat, and likewise fuel. But altogether the increases are found unimportant compared to the emphasis the railroads laid on them.

Beyond this the roads insisted that their credit would be ruined if they did not get the advances. They would be unable longer to induce investors to buy their shares and bonds, and many thousands of miles of new road the country needs would remain unbuilt, development would stop and all industry would be prostrated.

It was a sad forecast; but the commission found this to be the fact:

That in the last ten years—the period marked by the greatest advances in railroad regulation by government—a group of typical Western roads had paid regular dividends and increased their aggregate surplus from $108,000,000 to $262,000,000, considerably over ten per cent. a year. The commission opined that this was as much as was healthy.

That in that same period the earnings, both gross and net, had grown more than in any other like period.

That in that decade the roads had sold no less than $4,500,000,000 of bonds; which convinced the commission that quite a bunch of people must still have measurable confidence in the solvency of the railroads.

That government regulation, far from injuring the credit or reducing the earnings of the roads, had improved both. The reports of the carriers demonstrated the increased earnings; the immense flotations of their securities proved that their credit had not been impaired.

It was shown that for the roads of the whole country the earnings per mile were actually fifty per cent. greater in 1910 than in 1900. A group of six Western roads, all of which were earnestly assuring the commission that regulation threatened to ruin their credit and cut them off from capacity to borrow, were shown to have borrowed $450,000,000 in the last ten years. These same six typical roads—all "grangers"—paid $26,000,000 in dividends in 1901. They paid $55,000,000 dividends in 1910. And besides doing all this, they increased their surplus by $134,000,000.

Taking the railroads of the whole country, the books show that in 1899 their surpluses amounted to only $194,000,000. In 1910 the same item had mounted to the tremendous figure of $800,642,000.

The commission just naturally couldn't figure, from these statistics, why the railroads suddenly needed a big advance of rates to keep them out of the poor-house.

But it has seemed to me that the most important policy laid down by the commission relates to the unearned increment of value in railroads. Suppose a railroad company builds a road one hundred miles long for $2,000,000. It is in a new country. Traffic is scarce. Then the country settles, traffic is heavy, and the company finds itself earning so much that it is able to pay forty per cent. on the $2,000,000 investment.

Whose Melon?

IN THE beginning, that road paid five per cent. a year. When it gets to forty per cent. the management sees a chance to carve a melon. It realizes that the farmers along the line, earning maybe four per cent. themselves, view with concern their railroad earning forty per cent. So the railroad recapitalizes. It figures that a property paying forty per cent. on $2,000,000 would pay five per cent. on $16,000,000; therefore, it is worth $16,000,000. The difference between the original $2,000,000 and the present $16,000,000 is the unearned increment of value; the value that grew into the property because other people built towns and farms along its line. The railroad didn't make that value; the growth of the community did it. Who is entitled to that value?

The shareholders say they are, and proceed to increase the capitalization to $16,000,000. Is that fair to the community along the line? Is the road entitled to earn returns on the values other people have injected into it, or is the public entitled to have the rates reduced as the traffic and earnings grow?

There is the biggest question of public policy, in dealing with railroads, that the country still has ahead of it. We have settled that the government is going to make the rates; but on what valuation must these rates earn returns?

The commission gives its view unmistakably on this question. It does so in discussing the case of the Chicago, Burlington and Quincy road. That road urged that its property was worth vastly more than the amount indicated by its capitalization. It claimed to have invested $258,000,000, and capitalized it at $320,000,000. But beyond this it claimed that its property had so much enhanced in value that it was really worth $530,000,000 and was entitled to rates high enough to earn returns on that sum.

On this point Commissioner Lane wrote:

"This contention opens the broadest field of inquiry, as to the question of law and fact upon which the commission could enter. We have before us a property constructed by private persons under authority of government to be devoted to a public use. These private persons invest in that property the issues of certain sales of stocks or bonds amounting to $258,000,000. They capitalize this property at $320,000,000, one third of which capitalization is represented by stock and two thirds by bonds; they carry upon their books the cost of road and equipment at $364,000,000; and they now insist that the law gives them the right to a return upon $530,000,000.

"Under its present capitalization this corporation had available for distribution as dividends $13,975,620 in the year 1910, or 12.61 per cent. on its capital stock outstanding. 'This,' says the Burlington, 'is an insufficient return, because it is based on a capitalization which represents much less than value, and the courts have decided that under the constitution property of this character is entitled to a reasonable return upon the present fair value of the property in the service of the public.'"

The Actual Investment the Basis for Rates

TO THIS statement for the railroads, Mr. Lane, representing the opinion of the entire commission, replies:

"The difference between $258,000,000 and $320,000,000 represents investment in the property made out of earnings and increase of the value of right-of-way and terminals.

"If a stockholder takes his money in the shape of dividends and later stock is issued to the same amount, which he buys out of this dividend money, should the shipper be subjected to an increase in rates because of this action? If he should, then it is within the power of a board of directors indefinitely to increase the shipper's rates. For all that is needed is that the railroad in one year make an exceedingly large return and, after paying a dividend, issue stock to the stockholders equivalent to the balance of the unappropriated operating revenue available for dividends, and the money, being invested in the property, creates more value, which the shipper must care for."

It is thus laid down that the commission does not believe in stock dividends to represent excessive earnings and absorb them. It means that the commission's policy will be to object hereafter to rate advances based on the desire to earn returns on values that the stockholders did not put into the property, but that came from its excessive earnings or from the development of the surrounding community.

This is easily the most important thing in the whole decision—and the most dangerous. For it raises a question yet to be finally adjudicated. The supreme court of the United States might easily overturn the whole decision on the ground of this declaration of the commission.

A National Question in a Nutshell

I MAY summarize very easily the two contentions, and the summary will indicate how tremendous is the issue raised and soon to be fought out:

The railroads insist that they are entitled to returns on the cost of their property, and also on all values that may have grown into the property because other property around them has enhanced in value.

The commission says they are entitled to returns on their investments. Its position is that after a railroad is built, if it gets immensely profitable because of the country's growth, then the public is entitled to lower rates, rather than the stockholder to higher dividends.

Don't misunderstand me. The commission didn't say it so baldly as that. But that is what it means.

You can see how big a question it is. Suppose a railroad has 1,000,000 acres of right-of-way land and terminals, in Iowa, bought at one dollar and twenty-five cents per acre many years ago. That same land is now worth for agricultural purposes one hundred dollars an acre. It cost $1,250,000. It is worth $100,000,000. Shall it earn dividends on the $1,250,000, or on the $100,000,000?

The farmer who bought land at one dollar and twenty-five cents an acre and still holds it, insists that he is entitled to returns on the present value of one hundred dollars an acre. Why not the railroad?

Mr. Lane's answer, and the commission's answer, is that the railroad is a public concern, built under government concession, performing a public function and entitled to give service at rates reasonable to the public interest. In short, the commission finds that public property is not entitled to capitalize its unearned increment, while private property is entitled to do so.

"Fred stepped forward. 'I love you,' he muttered humbly"

POOR RELATIONS

By Adelaide Stedman

Author of "Miracle," "Intellectual Miss Clarendon," Etc.

Illustrated by Herman Pfeifer

Part IX.—Chapter XXII.

GEORGE MARTIN reëntered the office sober and more pallid than ever, the overwrought excitement gone from his manner.

"Well?" he questioned wearily. "Well?"

Fred and his father stared at him, unanswering, while they mechanically noted every detail of his attire, the crumpled black bow-tie at his throat; his large old-fashioned cuff-links, the yellowed silk handkerchief protruding from his pocket. To both the harmless-looking figure seemed fierce with menace. Neither looked at his nervous twitching face.

There was a minute's silence, then Charles Martin's big hands clenched the chair-arms when he finally burst out, "Thank God you are my brother! You can't send the boy—to the dogs!"

"No! Why not?" the cracked voice forced itself into harshness. "I don't think he needs much sending, he seems to know the way."

"Don't!" the other man's manner was subdued.

"All right!" the old man consented solemnly, "but I'm going to make you pay my price for silence—my price!

"Let me see." He raised his wrinkled hands, and counted on his fingers. "When I was thirty I asked you for five thousand dollars to go into business. You refused me! I want that money! In 1890 I needed only a thousand dollars to lift the mortgage on my cottage. You sent me away empty-handed. I want that! And lastly," he looked straight at the humiliated man, "I want twenty-five thousand dollars for these scraps I have in my pocket; these pretty little pink scraps!"

He smiled bleakly and went on, "I know you could overpower me and take them away, but you won't do that! You know I would die rather than give them up! Charlie, I have been practically down on my knees to you three or four times in my life; and you would have let me stay so until I wore holes in the carpet, for all you cared. Your brother! Now you remember it! You have been mighty anxious for me to forget that fact, all these years. Well, I have forgotten it; and you had better be careful, or I won't sell my silence—at any price!"

"Fred," Charles Martin pointed to the room where most of his private work was conducted, "go in there and stay until I call you."

The boy stumbled into the tiny office, growling, "Great fuss about nothing!"

His father closed the door, the sanctum's only opening, then leaned against the mahogany, breathing hard. There was a hesitant pause, but finally the financier began, his voice holding the bitter agony of the strong. "George, listen to me. Be reasonable! You know I have always hated my relations. I thought they were to be shaken off like a shell I had outgrown; neither by my fault nor my misfortune. I didn't see any duty I owed anyone. I needed no help. I felt I could stand alone!" He stopped, only to go on harshly, "I was a fool! Every man needs a few people to uphold him through thick and thin, and those people are his family, I suppose. They are the only ones to count on.

"Great heavens! I am all alone now, all alone! Even my son doesn't care, or he wouldn't have disgraced me so. I can't tell Clem and Penelope about this. It would break their hearts! Besides, I won't lean on women! I have not a soul to turn to!" Slowly he walked to his desk-chair and sank into it despondently.

There was a brief silence, while the old man fumbled with the bits of paper in his pocket. Charles Martin's shoulders, broad and thick and used to burdens, were bowed and drooping. Suddenly he looked up. "Will you—take the—money?" he muttered. "I'll pay." Without waiting for an answer he drew his check-book toward him, and for a moment his pen scratched over the pink sheet. Then he tore it out and held it toward his brother.

"Give me those scraps," he demanded. For an instant, as the check changed hands, the two men regarded each other steadily, a whirl of conflicting emotions battling in each. Then George drew from his pocket the bits of pink paper.

At sight of them, a purple flush rose to the father's cheeks. He snatched them fiercely, and with the abandon of despair sank once more into his desk-chair.

"How I worked and planned and plodded," he groaned. "How I planned for him. Always, I thought he would succeed me. And now—no matter what he does, I will never feel safe to trust him with a penny!" His breath came slowly. "Whom can I trust? Who is going to help me when I grow old? I am all alone!" One great dry sob shook him.

His brother rose feebly, his burning eyes fixed strangely on the other man's haggard face.

Charles Martin looked up dully. "I have your word. This business goes no further!"

"Yes," the old man answered. "And I have yours that my son goes—free."

"Yes, good-by!" he turned back to the desk, his head on his hand.

George Martin hesitated. Silently he stood watching the other man's heavy chest heave; watching, with an odd fascination. Then he turned his eyes to the pink check in his hand, and stared at the shaky faltering figures on it, until they danced and blurred before him. Suddenly his mouth began to quiver rapidly, and a sharp little cry burst from his lips.

"Charlie," he cried, crumpling the slip in his hand, "I can't do it. It's no use! I can't do it! Here, take the money. I can't live on your boy's disgrace! It's no use. I've tried to make myself do it; but it's no use!"

Charles Martin rose dazed. Mutely he looked at the old man, then suddenly he sprang toward him and grasped his outstretched hand in a convulsive grip. "George," he cried passionately, "George!" then the tears welled up in his eyes and trickled down his thin, pale cheeks.

"We'll stand by each other, Charlie," his brother faltered, "we must. You remember once how our mother spanked us both for quarreling and refusing 'to make up.' I remembered how grieved she looked and worried. It wasn't so long before she died! I started to think of her there in the office when you were talking to Fred. I couldn't help knowing how she would have felt—about to-day. And finally I couldn't stand it, Charlie: I just couldn't stand it!"

How long the two men stood there, they never knew, while refreshing tears wiped away corrosion left by years of acid hate. An observer could have noticed the resemblance between them, that mysterious tie of blood which had drawn them together with its spell. One face was modeled in bronze, the other in clay, but they were intangibly alike—of the same family.

The healing moments of tenderness were of brief duration, for in a few minutes a rap sounded at the door. "Come," Charles Martin called.

"Miss Martin to see you, sir. She says she has an appointment," the clerk announced.

"Let her wait in the next office a second. I'll come out."

"It is for her—Fred did it—" he explained to George, as soon as the secretary had disappeared. "It was my fault, I suppose. If I had helped the girl, it never would have happened. Now the boy is in love with her."

"Well, let him marry her, if she'll have him. She and her sister were over to Staten Island once, and she's a sweet girl!"

"What!" Mr. Martin exclaimed with a touch of his old manner. "Nonsense!"

"Well, anyway you had better tell her the whole truth, or there may be complications."

"I suppose I must." His face turned graver. "I'll see her in the next office. You wait here. Call Fred in if you like."

In a moment Marion was facing her uncle, her eyes flashing with anything but meekness. She had, figuratively speaking, "put on her war paint." Between Charles Martin and herself there was nothing but unpleasantness.

However, the man who began speaking was strangely humble, and as he told his miserable story, with many stops and painful hesitations, the girl was confused, disturbed and all but pitying. At the end, however, when he begged her to conceal everything from the publishers and to remember that Fred was her cousin, a scornful reply was almost spoken, when suddenly she noticed how her uncle's hands trembled on the chair-arms, and she remained silent. It was only a little thing, but it aroused the womanliness in her. She could not hurt a man when he was already so wretched.

"Uncle Charlie," she finally answered, "I should be terribly angry. I should blame you for all and everything that has occurred. Frankly, I think the responsibility does lie with you, but I am only sorry for you, indeed I am. I always envied Cousin Penelope until to-day. But now it's different." The man winced.

"I don't think there has ever been much plain speaking between you and your son. There's a great deal of good in him, I believe. The right influence could save him yet. He is nothing but a piece of driftwood, without the least bit of resistance; weak, but not bad, really. Uncle Charlie, he can be saved!"

"Will you marry him and try?" her uncle blurted out. All during Marion's speech the idea had gained favor with him. Suddenly he saw in her another ally of his own flesh and blood.

"Marry him!" the girl exclaimed. "Why, what are you thinking of?"

"He loves you," the man went on doggedly, "and he did—what he did—for your sake! That was a pretty good test of devotion. Marry the boy; you can make a man of him!"

The girl flushed, then turned slowly pale. "It is out of the question," she answered, her anger rising. "The idea, why should I? I have only suffered humiliation from you and your family. Now you want me to undertake the task of reclaiming your son.

[CONCLUDED ON PAGE 35]

Letters From a Country Sister

Common-Sense Talks Which Will Lighten Household Tasks

DEAR MARTHA:—

It is so long since I have written you anything of myself or home no doubt you have forgotten your country sister. Farm women are so busy—or that is the common opinion—that they are generally exempt from many of the little courtesies of life. I know how it has been in my own case. Routine work—cooking, washing, scrubbing—has monopolized not only my time, but also most of myself. There seems to be nothing but a husk of a real, live woman to offer my family. My friends—well, I may not have given them even that much.

I wonder to-day where the fault should be rightfully laid, on my shoulders, on husband's broad back or at fate's threshold. Perhaps all three are guilty to some extent, but it takes a strong-willed, strong-bodied and far-seeing woman to prevent her work wearing a rut in her life deep enough to swallow herself bodily and drag the family in after her.

My life on the farm can be sketched in with a few bold strokes, like that of many another farmer's wife. The light and shade; the misty background of unfilled hopes; the dull, flat foreground of present and future realities are about the same in every picture. The high lights in mind stand out strongly.

First a mortgage on the farm, new barns and additional machinery and some imported stock, another sixty acres added to the farm, more new machinery and so forth, while the dark spots in the picture always remained the same—an inconvenient house, long outgrown by the family; lack of working equipment; the same worn-out, back-number methods of doing the work. Why didn't I rebel long ago? The answer must be found in that mortgage and the imperative "must haves" on the farm. But my guardian angel knows that aching back and feet and hands have been my hourly companions for weeks at a time in busy seasons.

Martha, do you ever wonder if there will be an extra reward in the next world for the farm women who patiently carried water by the pailful into and out of the house, carried wood into the house by the armful, while the world moved rapidly onward and evolved better appliances and an easier way in housework for these self-same women who knew nothing of them? Personally, I think the recording angel will put all such work down in the column of sins of omission and those women will not even be credited with patience, for many times they might have had the easier way if they had cared enough about it to ask for it.

Sometimes I think men should be classified with bats and moles when it comes to seeing needed things about the house. Set their faces in the right direction, illumine their intellects, and they will generally get into line and do the right thing. The light that cleared my Hiram's vision, on at least one point, came in a peculiar way. I must tell you about it.

The barn had been finished and was naturally the pride of Hiram's heart, as well it might be. It was modern in every particular, running water in the stables and all that. It was only necessary to open a faucet at one end of the stable and a stream of pure water ran into every stall. Another faucet at the other end opened the waste-pipe and kept the water fresh. Similar contrivances were in the pig-pens.

One day a neighbor took dinner with us and was later shown the new barn. I had nothing half so grand at the house to exhibit; in fact, our cramped quarters made it impossible for him to avoid seeing all the operations of getting dinner, even to bringing in wood and water. At the barn he praised everything and Hiram's soul was satisfied. But just at the end the visitor turned abruptly and said, "My friend, I'm surprised that you treat your pigs better than you do your wife. Why don't you have water brought into the house for your wife as conveniently as for your pigs?"

It was a sharp blow for Hiram, but he took it like a man and not many weeks later I had running water in my kitchen. There was reproach in his voice, though, when he said, "You might have had it sooner if you had only mentioned it. I didn't see your need, you know."

That was the beginning of the changed conditions in my life. That single improvement in house equipment was an elixir to me. Running water in the house! Merely turning a faucet and there it was at hand, pure and cold! No more carrying it into the house by pailfuls! I found myself trying to calculate the time and strength saved even in one day by this simple contrivance and I was astonished.

One day I gave Hiram an extra good dinner, talked him into a particularly good humor and told him I wanted the good work finished. I wanted a waste-pipe put into the sink so the waste-water could be carried off as easily as the fresh supply was brought in. Hiram demurred, but I used diplomacy and tact, got what I asked for and was content—for a time. But a ray of light had shone in and I began to see where other changes might be made in my working equipment to save time and strength for me—two commodities that are necessary to farm women.

I began to realize as I never had before that my work in the house was every bit as important as Hiram's work on the farm in our business of home-making. I have had my awakening and it has not only made my home more comfortable, my life more livable, but it has shown me some things which we farm women need in our homes. I am going to give you some of my experiences.

Your Country Sister

Are We Making the Most of Life?

By L. D. Stearns

I WENT for a walk this noon before returning to my work, on the way passing a grain-store. Dozens of bags of grain were piled outside, all dusty and sweet, and the smell of the soft, yellow meal came strongly to me.

Once again I was a little girl, out in the old barn, basin and spoon in hand, wonderingly dropping the steaming, yellow dough pat by pat, while the little soft, downy, yellow and white chickens came crowding around and the old hen clucked threateningly near by.

I remember how I used to stand and watch them, wondering what *their* world was like and if they had their own way of thinking and talking together as we did, only in a language we couldn't understand. I'd look at the ants—such busy, tiny atoms—as they went hurrying to and fro, in and out of their hills, and I'd wonder if they, too, were thinking and talking together; and then I'd wonder if somewhere there was another sort of being as much beyond us as we were beyond the chickens and the ants.

My mind goes back over it all to-day—sent by the whiff of that meal—and together we're wandering over the intervening years—that little girl and I.

I'm wondering if she's made the most of life or if we—she and I—should have built a better, stronger fabric out of the months and years.

Little girls—you who are just facing life, holding your breath a little affrightedly at what it may unfold—I want to talk to you a bit to-day. I want to tell you to stand fast. The world is very, very wide, dears, and it's full to the brim of joys and beautiful unfoldings and glad, bright to-morrows, full of working and learning and success *if*—and here's where I want you to stop and think a little—*if you only make it so!* But it's just as full of disappointments, disillusions, failures—if you build *that* way. It will give you just what you build. If you want much, and want it enough to work for it, you'll get it; but you'll never reach any great height without great effort. If you want friends, you must be a friend.

Look out at the world squarely. Don't shirk. Hold yourself sweet and strong and true. Be wholesome. Remember, God created you a woman, and some day, if the right man comes to you, you'll want to give him a womanhood all unstained and untainted. Hold it sacredly; don't let anything come near, either in thought or in deed, to mar its purity, its sweetness, its strength; and in the meantime give to the moments your best and the weeks will swing into place all right. Make yourselves bright and fresh and sweet before you leave your room in the morning. It's the people you live with—who see you morning, noon and night—that you want to shine your best for and give your best to—your very best. They're the ones who love you the most and who are close at hand just now, to-day.

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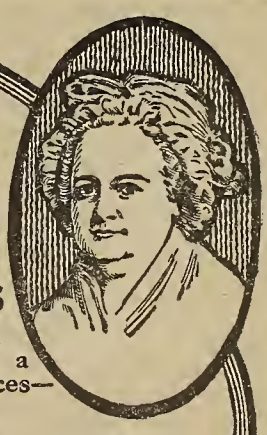

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The New Spring Fashions Designed by Miss Gould

The hat with an upturned brim is extremely modish this season, and many of the new turbans show a brim which turns up all around. In such hats the crown is round and just a little higher than the upper edge of the brim. Sometimes these hats are trimmed with quills and sometimes with a ribbon bow like the one illustrated above. This turban is made of smooth straw and is a very smart little model.

In selecting a new hat for spring look first to its becomingness. That is really the most important thing to consider. If the shape is becoming and the trimming appropriate for the hat, it is quite sure to be a success.

The most radical change in the new hats for spring and the coming summer is that the brim turns upward. Many of the new shapes show the crown in one color and the brim in another color.

Much ribbon will be used as a trimming and a very charming trimming it makes, too, for the new ribbons are so wonderfully attractive. For instance, there is an old rose ribbon of uncut velvet on the right side, and black satin on the wrong side. This ribbon is used for large bows and shows both sides, thus giving a very smart effect. White satin ribbons with black velvet stripes and plain-colored satin backs are among the novelties. King's blue which is a new shade of blue, is much used for the back of this black and white velvet striped ribbon. A bright shade of pink is also modish, and many pretty shades of tan. Fluted ribbon, encircling the crown of a hat, is also good style. Lace bows and plaited lace arranged in fan-shape give a rather pretty touch to many of the new hats.

Many walking shapes will he worn for spring trimmed with straw braid and quills in bright colors. The finished effect of a hat this season is either very high and rather narrow or very broad and very flat. When the crowns are low and large and the brims wide, little trimming is used, sometimes only a large, long, flat bow of satin. It is again fashionable to face the under brims. Satin is used for this facing and it is either black or in a very brilliant color.

In regard to arranging the trimming, it is generally placed at the back or just a little to one side of the back. Of course, this is not always so, for when the brim turns up sharply on one side, or the hat is in turban shape, the trimming is arranged outside the brim toward the front, but on the side.

Of course, flowers are used on the and summer hats. Sometimes one rose is placed at the upper edge of turned-back brim, as though it were ho the brim to the crown. Then again, of the imported hats show a cluster flowers standing up very high toward back. This arrangement is more the than to place the flowers in wreath

White straw hats will be good style summer with a bow of two-toned for the trimming, one side of the being invariably black. Rough will be much used, especially in braid effect. For dress-up occ the flower hat keeps on being the

Every woman is interested in each season's new fashions. Even if she cannot have a lot of new clothes herself, she likes to know what is fashionable and what other women are wearing. It is important for her to know about the new fashions, too, for if she can have only one new costume, she wants that costume to be right.

The spring clothes this year are very attractive and very economical ones, for simplicity is the key-note of the modish costume. Even the lines of the new costumes are simple this year. These lines keep to the straight up-and-down effect and, although they are not exaggeratedly so, skirts are still narrow this spring. Some of them are plain-gored models while others show plaits, though plaits which do not detract from the slim effect.

Coats are short, but are made on the straight-up-and-down lines to conform with the skirts. The waists are simple, too. A few of them have long sleeves, but the majority have sleeves which terminate just below the elbow. In such waists the sleeves are usually cut in one with the bodice.

Very attractive are the spring fabrics this year. Serges, cheviots and novelty worsteds are all modish. A silk thread runs through some of the new cheviots, while others are seen in very effective and inconspicuous plaids. They come in black and white mixtures, in two tones of gray, and in shades of fawn and brown. The double-faced tweed is also in high favor and we see it in such combinations as wood brown and reseda green, smoke gray and king's blue. Serge seldom varies as to its popularity. This spring it is in the small cord.

Two materials with which we are all intimately acquainted will he fashionable favorites for the spring costumes. These are voile and foulard. Wool, cotton and silk voiles will he extremely popular and are shown in a variety of effective colors, both plain and with a printed design. The foulards have never been more fascinating. In colors, navy blue heads the line. It is closely followed by other shades of blue—bright blue, gray blue and light blue. After blues come black, black and white and gray.

Illustrated on these pages are several designs which though smart in style are very simple. One of the new serges or cheviots would be attractive for the dresses, and marquisette or cotton voile pretty for the waist design shown in pattern No. 1717.

The hat in the above illustration is a very attractive one. It is made of Japanese straw braid in the natural color and is trimmed with two small black velvet bows and a band of the velvet encircles the high round crown. The brim turns upward, a little higher on the left side than on the right. The head size of this shape is large, permitting the hat to set well down on the head which is the fashion this spring.

No. 1717—Double Waist in Surplice Effect

Cut for 32, 34, 36, 38 and 40 inch bust. Material required for 36 inch bust, one and one half yards of thirty-six-inch material, with three fourths of a yard of contrasting material for trimming and two and five eighths yards of twenty-four-inch material for underblouse. This is a very pretty waist design and one that is easy to copy. The underblouse may be of net or batiste, and the overblouse of pongee, poplin or silk. The collar and sleeve trimming may be simply braided

No. 1691—Double Waist With V-Shaped Y

Cut for 32, 34, 36 and 38 inch bust. Material re for 36 inch bust, two and one fourth yards of two-inch material, or one and one eighth yards of six-inch material, with seven eighths of a yard of and two and one fourth yards of twenty-four-inch rial for underblouse which may be of tucked

No. 1692—Gored Skirt With Foot Band

Cut for 22, 24, 26 and 28 inch waist measures rial required for 26 inch waist, three and one yards of twenty-two-inch material, or two and yards of thirty-six-inch material, with one and fourths yards of velvet for band which trims the

No. 1683—Waist With Vest

Pattern cut for 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, three and one fourth yards of twenty-two-inch material, or two and one eighth yards of thirty-six-inch material, with three fourths of a yard of all-over lace

No. 1684—Skirt With Side Drapery

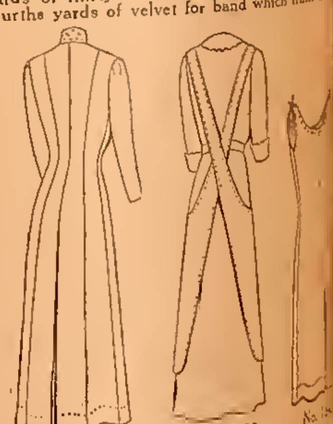
Pattern cut for 24, 26, 28, 30 and 32 inch waist measures. Length of skirt all around, 42 inches. Quantity of material required for medium size, or 26 inch waist, eight yards of twenty-two-inch material, or five and three eighths yards of thirty-six-inch material

No. 1578—Apron With Kimono Sleeves

Pattern cut for 4, 6 and 8 year sizes. Quantity of material required for medium size, or 6 years, three yards of twenty-four-inch material, or two yards of thirty-six-inch material. There can never be too many aprons in the little girl's wardrobe, for the apron stands for economy. The design shown in this pattern is an especially good one because it almost entirely covers the little dress worn beneath it. Cross-bar dimity and plaid gingham are good materials for this apron

No. 1642—French Chemise

Pattern cut for 32, 34, 36, 38, 40 and 42 inch bust measures. Quantity of material required for medium size, or 36 inch bust, five yards of twenty-two-inch material, or two and one half yards of thirty-six-inch material. The special feature of this attractive chemise pattern is its fitted back which is shown in the center of this page. This is an extremely easy chemise to make and one that can be made in very little time. It is pretty when finished with just a scalloped edge though, of course, embroidery, no matter how simple the design may be, is very effective



No. 1476 No. 1320 No. 1

No. 1683 No. 1684 — No. 1691 No. 1692 — No. 1454 No. 1455

No. 1454—Tucked Waist With Chemisette

Pattern cut for 32, 34, 36, 38 and 40 inch bust measures. Material required for medium size, or 36 inch bust, two and one fourth yards of thirty-six-inch material, with five eighths of a yard of tucking

No. 1455—Nine-Gored Skirt—Buttoned in Front

Cut for 22, 24, 26, 28 and 30 inch waist measures. Length of skirt all around, 41 inches. Quantity of material required for medium size, or 26 inch waist, four and three fourths yards of thirty-six-inch material

No. 1320—Work-Apron Buttoned on Shoulders

Cut for 32, 36 and 40 inch bust measures—small, medium and large. Quantity of material required for medium size, or 36 inch bust, four and one half yards of twenty-four-inch material, or three yards of thirty-six-inch material

No. 1476—Princesse Wrapper—Seams to Shoulders

Cut for 34, 36, 38, 40, 42 and 44 inch bust measures. Material required for medium size, or 38 inch bust, nine and three fourths yards of twenty-four-inch material, or six and one fourth yards of thirty-six-inch material

How to Get the Patterns

If you want clothes that are right in style and yet practical, use the Woman's Home Companion patterns which are guaranteed perfect. The patterns are simple to use and we supply them at the low price of ten cents each.

So great has been the demand among Farm and Fireside readers for Woman's Home Companion patterns that we have established three offices or depots from which these patterns can be obtained, as follows:

Eastern depot: Farm and Fireside, 11 East 24th Street, New York City.
Central depot: Farm and Fireside, Springfield, Ohio.
Western depot: Farm and Fireside, 1538 California Street, Denver, Colo.

A Premium Offer

To any Farm and Fireside reader who sends us one new subscription to Farm and Fireside with fifty cents for the same, we will give as a premium one subscription, one Woman's Home Companion pattern. To obtain a pattern without cost, send the subscription to Farm and Fireside, Springfield, Ohio.

The Catalogue is Just Out

Send your order to-day for the big spring catalogue of Woman's Home Companion patterns. It costs but four cents and is filled with designs which show what the new spring fashions are. They are practical designs, too, designs for costumes which every home dressmaker can use and will need. There are designs for house-gowns and trim-looking wrappers, designs for pretty waists and afternoon clothes, and designs for smart-looking street costumes. The children have not been forgotten, either, for there are pages of designs for coats, aprons, dresses and, in fact, everything the younger generation needs. There are paper patterns which can be supplied at the low price of ten cents for every design illustrated in the catalogue.

Do not miss this splendid chance of studying the new fashions, but send your order to any one of our three pattern depots inclosing two two-cent stamps, and the catalogue will be sent you.

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ASK FOR SIMPSON EDDYSTONE PRINTS
You cannot afford to waste the cost of dress-making by spending it on inferior fabrics.
Simpson-Eddystone Silver Grey Prints
are the cotton dress-goods of beautiful appearance, lasting quality, and true economy. These standard calicoes have artistic designs printed deep in fadeless color on well-woven fabrics. They are backed by 68 years' experience and skill. "Worth making up."
The Eddystone Mfg. Co., Phila'a
Founded 1842 by Wm Simpson Sr.

400-CARD Post-Card Album Sent Without Cost
This handsome Post-Card Album will hold 400 cards. It is 8½ inches wide by 14 inches high and has 100 pages. Is substantially bound in cloth and has a handsomely decorated cover. A book of this kind is absolutely essential if you wish to show off your post-card collection to the best advantage. It will enable you to keep post-cards almost indefinitely. You want this for your post-card collection.
Our Offer Send us only three yearly subscriptions to Farm and Fireside, and remittance of $1.50, and we will then send you, post-paid, this fine 100-page Post-Card Album.
FARM AND FIRESIDE Springfield, Ohio

LASTING MEMORIALS
The Monumental Bronze Co., 347 Howard Ave., Bridgeport, Conn.

THE BEST LIGHT
THE BEST LIGHT CO. 212 E. 5th St., Canton, O.

50 Beautiful Post Cards 10c
NO TWO ALIKE 100 SUBJECTS
Nation Press D. C. Department
20 VESEY STREET NEW YORK

Sent on Approval. Send No Money. $2 Hair Switch
Anna Ayers, Dpt. 864, 19 Quincy St. Chicago

Do You Want 'Beauty'?

Read How to Win This Pony

Good News for our Boys and Girls. This beautiful pony is to be given away by FARM AND FIRESIDE to some boy or girl. **Just think, he won't cost a single penny!** Yes, "Beauty" and his handsome cart and shining harness, all complete, goes to some boy or girl on June 30, 1911. Do you want to be the lucky boy or girl to win him? I guess you would be the happiest boy or girl in all the land, and the proudest, too. Well, you can be that boy or girl if you start right now and hustle enough.

Our Greatest Pony Contest

Every year FARM AND FIRESIDE conducts a Pony Contest for its boys and girls. Hundreds of boys and girls have won ponies and other handsome prizes, but this 1911 Pony Contest is the biggest and best Pony Contest we have ever held. Altogether we offer our boys and girls in prizes and awards

Three Beautiful Ponies and Outfits
Three Magnificent $600 Pianos
$5,000 in Prizes and Cash Awards

Besides "Beauty" two other beautiful ponies and outfits will be given away, or, you may choose in place of a pony a $600 Upright Cabinet Grand Piano. Furthermore, Five Hundred Grand Prizes will be awarded. And a total of more than $5,000 will be offered in prizes and cash awards. But this is not all. We guarantee

A Prize for Every Contestant Enrolled

You are Sure of a Prize

Every boy and girl who starts in this contest will be fully rewarded for all time spent. You can't lose. If you just start you are sure of a prize. FARM AND FIRESIDE guarantees that absolutely every contestant will be rewarded directly according to the number of subscriptions obtained. The prizes include a Gold Watch, Victor Talking-Machine, Bicycles, Shot-Guns, Sewing-Machines, Cameras and almost everything else any boy or girl ever wished for. You are sure of a prize if you just start. Besides you will receive a Cash Commission for absolutely every FARM AND FIRESIDE subscription you send the Pony Man.

The PONY BOOK Free!

You can get the beautiful PONY BOOK free by just sending your name to the Pony Man. The PONY BOOK contains the pictures of dozens of handsome ponies, which have been won by FARM AND FIRESIDE boys and girls. It also contains the pictures of the boys and girls who have won ponies. It is the most interesting book you have ever read. It is written by these boys and girls themselves and tells just how they won their ponies, and how you can win "Beauty." You are invited to write to any of these boys and girls, each of whose complete post-office address is in the PONY BOOK, and find out just how easy it is to win a beautiful pony if you have energy and really want a pony for your own. They are ordinary boys and girls and have won by perseverance and hustle. What they have done you can do, too. Start right away if you want to win "Beauty."

A special additional prize of 25 beautiful Easter Post-Cards if you become an Enrolled Contestant and get 10 points before April 15th. Hurry up! Send in your name to-day! Don't wait.

Write to the Pony Man To-day

Absolutely the first thing to do is to write your name and address on the Coupon below (or on a postal-card) and send it to the Pony Man of FARM AND FIRESIDE. I will tell you right away, by return mail, how to win "Beauty" and the other ponies. I will also send you a lot of photographic pictures of "Beauty" and the other ponies, together with everything necessary to start right in and win. Also, I will send you the beautiful PONY BOOK. All these things won't cost you a penny and won't commit you to do a single thing.

Become a Prize-Winner at Once

If you want to make sure of a prize the very first thing, don't wait to hear from me—just get 10 of your friends each to give you 25c for an eight-month subscription to FARM AND FIRESIDE. Then you will be a prize-winner and enrolled contestant sure. Keep 5c for each subscription as your Cash Commission. Hurry up! Start to-day!

The Pony Man.

This is "Beauty" with Cart and Harness Complete

"Beauty" is Waiting for You—Cut out this Coupon and Start Today

March 25th

Dear Pony Man:—
Please tell me by return mail how to win "Beauty." Also send me, free, the pictures of "Beauty" and the other ponies, and the Pony Book. I am very anxious to get "Beauty," so save a place for me in the contest. I will send my ten subscriptions as soon as possible.

Name .....

Town .....

R. R. ..... State .....

The Pony Man, Farm and Fireside, Springfield, Ohio

Our Puzzle School

Conducted by Sam Loyd

Going Into Business

REALIZING that the choosing of a profession or art is the turning point in a young man's career, the old puzzlist who is resting after threescore years and ten, devoted largely to agricultural pursuits, takes occasion to present a puzzle-game which effectually settles this important question.

Exercise the patience and skill of the crafty Modoc to read the many vocations hidden between the lines, remembering that the first word missed denotes the business in which you will be engaged. We caution the gentler sex to note every word, as the first name overlooked tells the profession of the future spouse.

We shall tell about Thomas Smith, of the great Smith family, whose motto should be: "God Bless Pocahontas," who came from Ansonia, Ct., or Harrisburg, La., reckoning on making a fortune by farming. This incident is told to show that Smith, who was dead-broke, realized that hard work was in store for him. He wished to cultivate a cherry and apple orchard, but the land was a mere sand-bank ere coming into the possession of Thomas. On this sand-bar berries of a wild nature might thrive, but cherries, apples or other fruit would not grow on account of a rank underbrush which Smith, however, with a patent grub-rake managed to clear away. It was a long and tedious battle with poverty, and his old negro certainly was getting lazier every day, which laziness was so chronic he mistook it for genius, claiming to be a second Æsop; he would bandy erratic fables with the other help, such as the "Story of the Stupid Hen and the Door-Knob Egg." A revolution had begun. Smith's farm, handsomely cultivated as it now was, began to yield bumper crops and lowing herds, Mary's poetical little lamb having grown into a stalwart ram, proved it or showed that time was passing swiftly. Smith being located on Mad River could ship lumber by boat, or export cattle, fruit and grain ere he had been in business many years.

Smith was so practical that his castles in Spain terminated more successfully than is generally the case. He secured as skillful a borer or sinker of driven wells as could be found and irrigated his lands. He read scientific books and papers on profitable farming and restoring soil by the employment of correct fertilizers; rotating the crops as recommended and by improving the breeds of cattle, horses, etc. Customers who first bought at retail ordered by the herd or flock afterward.

But all this has no more to do with choosing a calling than the style of the summer chanticleer hat has to do with a tin kerosene oil can, so let us get back to our subject.

Unfortunate mistakes are sometimes made in selecting a business or partner. Æsop tells of a foolish carp entering into a compact or partnership with a shark who became a despot, terrible and dishonest. Beware of sharks.

There is a funny little game called "Boiling Water," where the young folks dance around a kettle and chant doggerel lines in German or French. "Auf feur Ich das wasser Koche," and when the water boils they are mated as they may be paired.

Now who can read their fate from this impromptu rigamarole?

Speaking about trades and professions reminds us to ask the juvenile class if they can guess the business which the gentleman follows, as shown in the following

Pictorial Charade

Charade on Two Words

Of Similar Pronunciation

FIRST WORD

I rush and roll and gambol,
Dancing with many a bound,
And when I run o'er pebbly beds,
I make a gurgling sound.
The waters that are near me
In quiet wend their way,
Darkly gliding through the night
And sparkling in the day.

SECOND WORD

From bush of clearest verdure,
I hang in clusters bright,
Red, juicy, round and acid,
Pleasant to taste and sight.
A healthy, useful fruit I am,
As ever grew for man,
And when I end my summer life,
I'm buried in a can.

Both of these words are like in sound,
In sense they're not the same;
The head of each one is a dog—
A dog unknown to fame.
And when the heads are from the tails
Torn violently asunder,
One shows a rent, the other means
Something that sounds like thunder.

Square Words

Of course, all puzzlists know how to make square words. Take a word that means frozen water; what parents give to children; a sign, and a word that indicates gone. They will form a square word, the same from the top down or from left to right. The answer to this, of course, is:

S N O W
N A M E
O M E N
W E N T

A better way to form puzzles of this kind is by the aid of pictures, which leaves more to the imagination to tell what they represent. Here is a simple illustration of a square word:

Brain-Sharpeners

Why, when you paint a man's portrait, may you be described as stepping into his shoes? Because you make his feet yours (features).

Why may a beggar wear a very short coat? Because it will be long enough before he gets another.

Which is the most valuable, a five-dollar note or five gold dollars? The note, because when you put it in your pocket you double it, and when you take it out again you see it increases.

Why is a pretty young lady like a wagon wheel? Because she is surrounded by felloes (fellows).

Answers to January Puzzles

The Price of Silk and Worsted: Silk cost five cents and worsted four.

Dividing His Herds: It will be found that there were seven sons, fifty-six cows and just seven horses. The elder son took two cows and his wife six. The next three and his wife five. The next four and his wife four, and so on down to the seventh son who took eight cows, which left none for the wife. Then each son took one horse and each family shared alike.

Twenty-Two Birds: Lark, eagle, blackcap, bird of paradise, swallow, rook, kite, blackbird, sailor, crane, butcher, rail, mocking, rice, tailor, peddler, secretary, turkey, armadillo, swift, jay, wren.

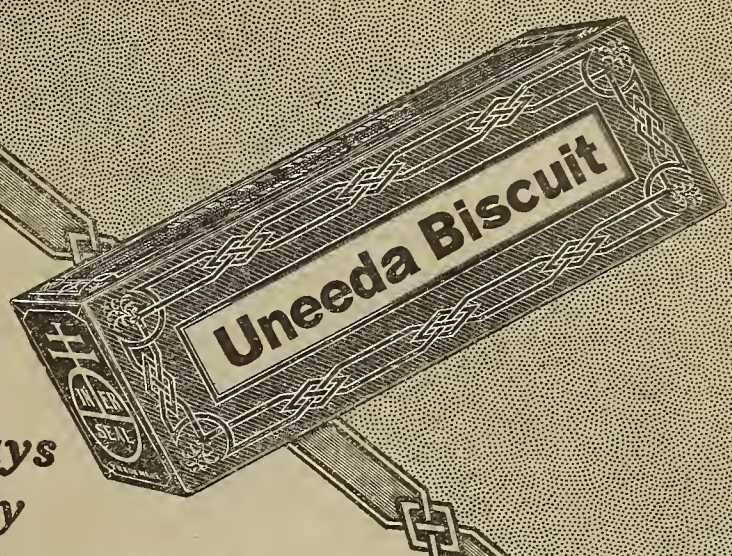
Charade: Seven and even.

Anniversary Puzzle: Plane, ax, spade, mallet, shovel, lathe, anvil, file, awl, auger, square, vise, scoop, grindstone, saw, screwdriver, hammer, hatchet, brace and bit, adz, hoes, oil can, paint pot.

Cheese Puzzle: Hans cut his cheese into fifteen pieces, as shown in the following illustration:

A prize puzzle book will be sent to the fifty readers sending the best answers to Sam Loyd, Box 826, New York City.

When answering the puzzles be sure to tell what books you have received so as not to receive duplicates.



Always Ready

Wise foresight should lead you to keep in the cupboard a half dozen or more handy packages of

Uneeda Biscuit

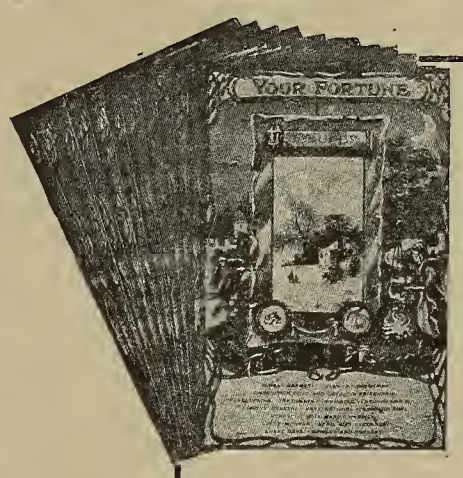
They won't get broken, musty, soiled or soggy like ordinary soda crackers because their crisp, clean freshness is protected by the moisture-proof and dust-tight package.

Never Sold in Bulk

5¢

In the moisture-proof package

NATIONAL BISCUIT COMPANY



Fortune-Telling Post-Cards

In Sets of Twelve

A DIFFERENT card for each month in the year, showing the birthstone, the sign of the zodiac and a brief horoscope—witches, owls, crescent moons, black cats and all of the Fortune-Teller's paraphernalia. With these cards you can have loads of fun telling the fortunes of your friends. Tell them their lucky and unlucky months and days. You can tell them more about their characteristics than they know themselves.

ALL FOR SIX CENTS

postage. Send us three two-cent stamps and in return we will send you, post-paid, a complete set of these new Fortune-Telling Cards. Send at once to

DEPT. E

Farm and Fireside

SPRINGFIELD, OHIO

Be An Independent Buyer

"A Kalamazoo Direct to You"

TRADE MARK REGISTERED

—"And Gas Stoves, Too"

Oven Thermometer Makes Baking Easy

Spend One Cent For This Big FREE Book

Our Big Free Stove and Range Book gives you our factory wholesale prices and explains all—saving you $5 to $40 on any famous Kalamazoo stove or range, including gas stoves. Sold only direct to homes. Over 140,000 satisfied customers in 21,000 towns. Over 400 styles and sizes to select from. $100,000 bank bond guarantee. We *prepay all freight* and give you

—30 Days' Free Trial
—360 Days' Approval Test
—CASH OR CREDIT

Write a postal for our book today—any responsible person can have same credit as your home stores would give you—and you save $5 to $40 cash. No better stoves or ranges than the Kalamazoo could be made—at any price. Prove it, before we keep your money. Be an independent buyer. Send name for **Free Catalogue No. 183.**

Kalamazoo Stove Company, Mfrs., Kalamazoo, Michigan

FIFTY
Beautiful Post-Cards
Assorted Subjects
—For—
Farm and Fireside Readers

We have just concluded a purchase of Post-Cards which enables us to offer our friends an assortment of fifty cards of the very best quality and design, absolutely without cost.

These cards are without doubt the acme of post-card production. They are lithographed in ten colors and the designs are new, original and attractive.

YOU
Will Want These Cards

And we want you to have them. The subjects are many and varied, and can be applied to all occasions, such as Birthday Greetings, Best Wishes, Good Luck, etc.

We give you our positive assurance that a finer assortment of Post-Cards cannot be obtained anywhere. These cards are the best in every particular.

Write To-day
For Particulars

We will reply immediately telling you how you may obtain this fine assortment of high-colored, high-finished, high-price Post-Cards without a cent of cost to you.

Write at once. Address

FARM AND FIRESIDE
Post-Card Department
Springfield - - - - Ohio

The Funniest Ever

Little Willie Again

"PA!" came little Willie's voice from the darkness of the nursery.

Pa gave a bad imitation of a snore. He was tired and did not wish to be disturbed.

"Pa!" came the little voice again.

"What is it, Willie?" asked his father, sleepily.

"Tum in here; I want to ast you sumpin'," said the little voice.

So pa rose up from his downy bed and, putting on his bath-robe and slippers, marched into the nursery.

"Well, what is it now?" he asked.

"Say, pa," said little Willie, "if you was to feed the cow on soap would she give shaving-cream?"—Harper's Weekly.

She Meant Sensations

IN A primary school examination, over which I once had the pleasure to preside, one of the questions was with regard to the five senses. One of the bright pupils handled the subject thus:

"The five senses are: Sneezing, sobbing, crying, yawning, coughing. By the sixth sense is meant an extra one which some folks have. This is snoring."

A Sailor's Yarn

SAILOR—"Just at that moment my father received a bullet that cut off both his arms and legs and threw him into the sea. Fortunately, he knew how to swim."—Le Rire.

Reasons

PROFESSOR—"Why did you come to college, anyway? You are not studying."

WILLIE RAHRAH—"Well, mother says it is to fit me for the Presidency; Uncle Bill, to sow my wild oats; Sis, to get a chum for her to marry, and Pa, to bankrupt the family."—Puck.

Not to Overdo It

LILY—"I'se gwine to a s'prise party to-night, Miss Sally."

MISS SALLY—"What will you take for a present?"

LILY—"Well, we didn't cal'late on takin' no present. Yo' see, we don' want to s'prize 'em too much."—Brooklyn Life.

No Assistance Needed

AS THE train neared the city, the colored porter approached the jovial-faced gentleman, saying with a smile:

"Shall ah brush yo' off, sah?"

"No," he replied; "I prefer to get off in the usual manner."—Princeton Tiger.

The Kind He Planted

A SMALL boy was hoeing corn in a sterile field by the roadside, when a passer-by stopped and said:

"'Pears to me your corn is rather small."

"Certainly," said the boy; "it's dwarf corn."

"But it looks yaller."

"Certainly; we planted the yaller kind."

"But it looks as if you wouldn't get more than half a crop."

"Of course not; we planted it on halves."

MR. HOBBLE—"Come on or we'll miss the train."

MRS. HOBBLE—"But, dearie, we've got an hour."

MR. HOBBLE—"Yes, but we've got three blocks to walk yet."—Sante Fe Employes.

Used Up

"SO YOU were introduced to Teddy Roosevelt this morning, eh? Let me shake the hand that shook the hand of Roosevelt!"

"No, sir; that hand's lame."—Lippincott's.

Candor in the Home

"YOUR sister's a long time about making her appearance," suggested the caller.

"Well," said the little brother, "she'd be a sight if she came down without making it."—Cleveland Leader.

His Wife

"WHAT do you do for a living, Mose?"

"I'se de manager ob a laundry."

"What's the name of this laundry?"

"Eliza Ann."—Louisville Courier-Journal.

The Evidence Located

"DID you sweep your room, Bridget?"

"Faith an' I did, mum. If yez don't believe me, look under the bed."—Life.

Can't Be Beat

"AH, YES, we have a wonderful climate," said the man from southern Texas. "Why, only last season we raised a pumpkin so large that, after sawing it in two, my wife used the halves as cradles in which to rock the babies."

"Yes," replied the man from New York; "but in my state it's a common thing to find three full-grown policemen asleep on one beat."—Lippincott's.

Modern Mary

MARY had a little skirt,
Tied tightly in a bow,
And everywhere that Mary went
She simply couldn't go.
—Harper's Bazar.

A Big Hit

THE CABBAGE—"Were you ever on the stage?"

THE EGG—"No; but one of my family was once cast for the villain and made a big hit."—Smart Set.

Between Friends

"I DON'T like my new gown very well," said the young lady. "The material is awfully pretty, and the style is all right, but it needs something to improve the shape of it."

"Why," suggested her dearest friend, "don't you let some other girl wear it?"—Boston Globe.

Who Won?

THE late Duke of Wellington got a letter once from a lady, saying she was soliciting subscriptions for a certain church, and had taken the liberty to put his name down for two hundred pounds, and hoped he would promptly send her a check for that amount. He forthwith replied that he would respond to the call; but he, too, was interested in a certain church which needed subscriptions, and, counting upon his correspondent's well-known liberality, he had put her down for two hundred pounds. "And so," he concluded, "no money need pass between us."—The Christian Register.

The Reason

CRAWFORD—"Is this club you belong to homelike?"

HENPECK—"No; that's the reason I go there."—Smart Set.

Saves Miles of Steps for Tired Feet

The Hoosier Kitchen Cabinet gives you more for your money than any other Cabinet. Notice how much MORE goes with the Hoosier with NO EXTRA CHARGE:

Metal flour bin with sliding glass panel and removable sifter. Bin holds 65 pounds. Self-feeding metal sugar bin. When a scoopful is taken out the same quantity drops down. Six crystal glass spice cans with aluminum lids. Crystal glass tea and coffee jars with aluminum lids. Hoosier patent "clock-face" want list. Great big aluminum sliding work table, larger and higher than a kitchen table. White wood cutting board for bread and meat. Metal bread and cake box. Plate racks, sliding shelf, big cupboard, large compartment for pots and pans, cutlery drawer, linen drawer, handy hooks, copper door fasteners and drawer pulls.

The cabinet is 70¾ inches high and 40 inches wide. The depth of the lower section is 28 inches. The cabinet is on pressed steel ball-bearing casters.

To the Housewife who does her own work: You wouldn't keep house another day without the low-priced Hoosier if you knew how many **miles of steps** this wonderful cabinet would save you. Think of the countless trips you now make **day after day** from the kitchen table to the pantry—and to and from the hooks and shelves for your materials and utensils.

The Hoosier saves you these steps. It saves you from reaching to high shelves. It saves you from the back-breaking strain of bending over bins, barrels and boxes. It enables you to do your kitchen work in half the time. A million women in the United States now have kitchen cabinets. Half of this million have Hoosiers. Tens of thousands are in busy farm kitchens. Why not in yours?

Hoosier Kitchen Cabinet
One Dollar a Week Puts This Cabinet in Your Kitchen

The Hoosier returns its price to you over and over again in the help it gives. Women tell us the Hoosier solves the problem of kitchen help.

It is the lowest-priced cabinet made—measured by the years of service it gives. The Hoosier is built of three thicknesses of golden oak, and lasts a lifetime. It is the only kitchen cabinet with aluminum work table.

Write us for our FREE Cabinet Book, illustrating the roomy and convenient Hoosier, with the full equipment listed above. We will also tell you where you can see the wonderful Hoosier Cabinet near your home. In nearly every community there is a Licensed Hoosier Agent. Look for the sign (shown below). The merchant who has this sign in his window is a good man to know.

But write for the Free Cabinet Book at once.

Mr. Husband:
You have riding plows and many farm implements to make your work easy. Have you ever thought that your wife should have a step-saver for HER work? The old-time kitchen table is as far out of date as the walking plow. The Hoosier Kitchen Cabinet saves as much labor in the kitchen as the riding plow saves in the field. Write us NOW for our Kitchen Cabinet Book, and learn how happy you can make your wife with the Hoosier.

Hoosier Manufacturing Co. Home Office and Factory, 15 French Street, New Castle, Ind. San Francisco Branch: 228 Pacific Building. (25)

World's Greatest Makers of Kitchen Cabinets

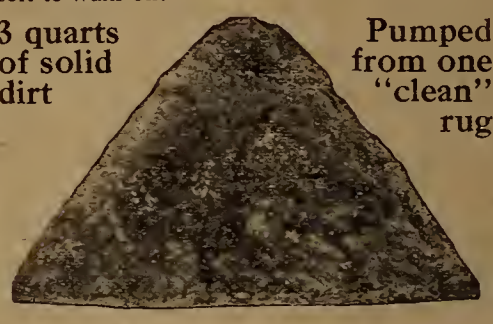
LICENSED AGENTS FOR
HOOSIER KITCHEN CABINETS

Look for This Sign of the Licensed Hoosier Agent—a Good Man to Know

Every Wife Must Have One

Every housewife must have an AUTOMATIC Vacuum Cleaner. It saves taking up the carpets, and it keeps the carpets, rugs, upholstered furniture, mattresses, pillows, etc., clean and sanitary every day in the year. It brings out the colors bright and fresh, raises the nap making the carpets wear longer and soft to walk on.

3 quarts of solid dirt — **Pumped from one "clean" rug**



This picture shows three quarts of dirt pumped out of a 10x12 rug which the housewife had just swept. The AUTOMATIC pumps dirt out of the texture of the carpet just as you would pump water from a well and it gets every atom of dirt, dust, moths and every form of microbe, and without removing a tack.

The AUTOMATIC is sold with a guarantee to be the best hand Vacuum Cleaner on the market, to have the strongest suction, to clean the carpets cleaner, to outlast any three other cleaners on the market. We guarantee it for 20 years.

We Want Live Agents

We want a live man in each town, village and post-office to sell AUTOMATIC Vacuum Cleaners. Experience is not necessary. In fact many of our best agents are farmers and farmers' sons who never had seen a vacuum cleaner before they received ours.

The AUTOMATIC practically sells itself. Simply show it to the customer, and let her clean a few square yards of her own carpet and she is convinced then and there.

This Agent Sold Over 300

W. O. Orwig, a farmer of Prairie City, Ill., sold more than 300 and made a fine profit.

J. A. Hamitt, a farmer of Atlanta, Ill., sold 125 machines.

P. A. Swadley of Downs, Ill., sold 250 machines.

These men are all land owners and are selling cleaners on the side to people in their own neighborhoods, and are but a few of the scores who are doing the same at an excellent profit.

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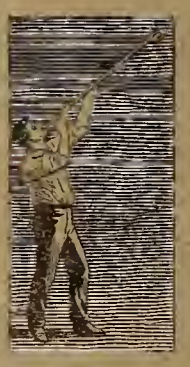

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The Household Department

Makeshifts for the Kitchen

Two young housekeepers went to new homes about the same time in the same neighborhood, but there was a vast difference in their methods of conducting those same new homes. Each had come from a well-equipped home kitchen and each was to begin in a very modest way in the new home. One bride lamented that she was forced to do without many of the conveniences of her old home, and sighed as she read the attractive recipes in the cook-book, while the other set to work to make as many of the conveniences as possible without a great outlay of time and money.

The sensible young woman enjoyed steamed puddings very much, but she could not afford an expensive steam cooker. She saved some empty tin coffee-cans and used them in a kettle of boiling water on a home-made rack of coiled wire, and turned out just as good things as ever came from the most complete steamer.

Coffee-cans properly marked held her modest supply of lard for immediate use, her fryings, her sugar and a dozen and one other supplies, while her neighbor was allowing the sugar and groceries to stand about in paper bags, lamenting that she could not afford to buy jars for them. Baking-powder cans kept the spices from the air; and old cocoa-bottles contained the powdered sage and other herbs used in seasoning.

An old lard-can served as a bread-can and another for the fruit-cake in winter-time. Both of these had been discarded for lard because they had holes in them, but they did very well for bread and cake receptacles. A good lard-can made a fine wash-boiler for the towels and other small pieces, and her ironing-board was a home-made concern on stout supports.

A home-made table that could easily be moved about was a great comfort to the young housekeeper, though it had no rollers like the up-to-date kitchen tables. However, she could easily carry it to the side of the stove for frying doughnuts or washing dishes and to any other place in the house where it was needed.

A kitchen cabinet was out of the question at first, but the store-box cupboard with its curtains before the shelves was always neat and tidy. It was carefully constructed and stained a good color, so that it did not look rough and out of place in the clean kitchen.

All the cream, except enough for the household butter, was sold, so a churn was made by fitting a cover on a tall stone jar and making a dasher for it.

For poaching eggs, a clean bright pie-pan that was used for nothing else was buttered, the eggs broken on it and it was set on the wire pudding-rack in a frying-pan of boiling water. The cover was put on and in a few minutes the eggs were delicately done without the trouble of draining the hot water from them.

Sandwich-bread was baked in coffee-cans instead of the specially made pans, and a long wooden stick made smooth and round lifted out doughnuts better than a steel fork.

HILDA RICHMOND.

The "Cut-and-Dried" System

THIS article will not be as "cut and dried" as its title might indicate. In fact, it is a protest against the "cut and driedness" of systems laid out for the house-mother.

We can hardly pick up a woman's magazine that we do not find explicit directions regarding "system." In one of the recent current magazines of a high standard we were given the exact rule for spending our day. We are to take a few physical culture exercises the first thing, take a cold bath, make our toilet and spend a few minutes in quiet reading and devotion, all this in fifteen minutes or thereabouts.

The first thing after breakfast we are to pass through every room in the house and put it in spotless order—and this in a seven-room house is not to take more than twenty minutes! This before we do our breakfast-dishes.

A woman I know called my attention to this article. She liked it, she thought it would be ideal to live that way and do that way, but "What am I to do?" she said. "Now, this was my outlook on life the next morning after I read that piece. I was called up about half-past four, to get a breakfast for men who were going six miles to help a bereaved neighbor, whose farm work had been delayed. I didn't take a single physical culture exercise.

I bounded out of bed, slipped into my clothes the easiest and quickest way possible, I did brush my hair and my teeth, but I had no chance for high reading. After breakfast I looked longingly at my house, but my irons were hissing hot and there was work to do before the fire went down.

If I had gone through my house to make it spick and spotless, my dessert could not have been baked with my early fire, nor could my ironing have been accomplished. It would have necessitated my making a fresh fire, thus using more coal, and even soft coal costs us about nine dollars a ton here. So I tackled the 'duty that lay nearest.' I kept doing the things that I had to until eleven o'clock and dinner in sight, then I went right on doing the things that seemed duties to me."

I could only laugh a little for systems are systems, and the system that suits one woman and one woman's work cannot be made to embrace another woman and another woman's work.

The woman above mentioned has a good deal of executive ability, but she could not that day, nor can she any day, live up to that other woman's standard of housekeeping. She must individualize her system. The older we grow the more we can see how futile it is to plan for other people, whose lives we know little about.

Don't be too discouraged when you read of the wonderful accomplishment of other women, maybe they wouldn't do much better than you do, in your situation and circumstances.

ROSE SEELYE-MILLER.

Some Good Recipes

Muffins—One pint of buttermilk or sour milk, one half teaspoonful of salt, one even teaspoonful of soda, one half cupful of corn-meal. Flour for stiff batter. Beat well, then add one tablespoonful of hot lard, pour in hot, well-greased gem-pans and bake at once in a quick oven. This will make one dozen muffins.

Fruit-Puffs—Two cupfuls of flour, two teaspoonfuls of baking-powder, one half teaspoonful of salt, sweet milk to make stiff batter. Butter six teacups. Put in alternate layers of small fruit (such as canned cherries or berries) and batter. Steam one half hour. Serve with cream and sugar.

Chocolate Pudding—Let one quart of sweet milk come to boiling-point, add one cupful of sugar, one half cupful of grated (and melted) chocolate, two large tablespoonfuls of corn-starch dissolved in cold milk. Boil till thick, stirring constantly. Pour into cups. Set in cold place until firm. Serve with sugar and whipped cream.

Cranberry Bread Pudding—Fill a granite pudding-dish with alternate layers of bread-crumbs and fresh cranberries, adding to each layer plenty of sugar to sweeten, a few seeded raisins, and a little spice if liked, and dot with bits of butter. The top layer should be of buttered crumbs. Stir a well-beaten egg into one cupful of fruit-juice and pour it over, then bake slowly for about forty minutes, or until the berries are done. Serve with a sweet pudding-sauce or sugar and cream.

Apple-Fritters—Peel the apples and cut out the core, leaving the apples whole, then slice across in round slices one fourth of an inch thick, sprinkle with lemon-juice and powdered sugar, and let stand for an hour, drain, dip each slice in batter and fry until of a light brown color. Sprinkle again with sugar and serve hot.

Helpful Hints

If new stockings are washed before wearing, it will tighten the threads, and they will wear twice as long.

A very useful and inexpensive present is a set of plate-protectors. Cut from cotton-flannel or cotton-batting circles to fit plate; buttonhole edges with any colored mercerized cotton. Each set consists of one dozen.

A fine way to make a black chip hat look like new is as follows: Take a piece of an old silk handkerchief, dip it in olive-oil, rub the hat thoroughly, then take a dry piece of silk and rub again until well rubbed in.

Dabbing the eyelids with a piece of absorbent cotton dipped in weak tea is cleansing and prevents sties.

Keep a bowl of oatmeal on the wash-stand, and after washing the hands dry them in the meal. This will keep them white and smooth.

To remove grease from wall-paper, mix pipe-clay with water until it reaches a creamy thickness; spread the paste over the spot to be cleaned and leave until the following day, when it may be easily brushed or scraped off. The process may be repeated if the stain does not entirely disappear with the first application.

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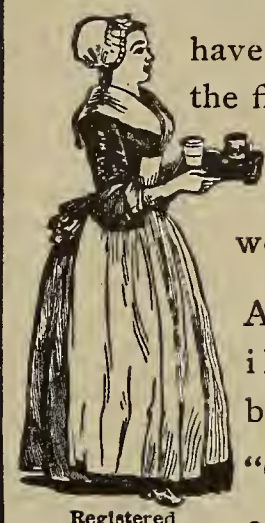

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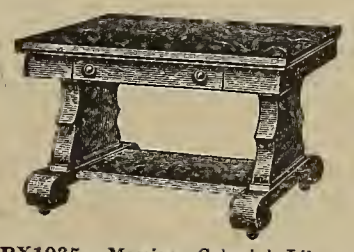

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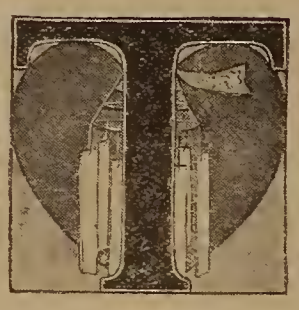
OUR YOUNG FOLKS' DEPARTMENT

The Singing Heart

By Izola Forrester



HERE is a wistaria arbor in the emperor's gardens at the old Manchu Palace. They call it the Arbor of the Singing Heart. If you keep very still and sit there when the wind blows, you will hear the singing heart quite plainly. Sometimes it is happy and almost laughs aloud for joy, and other times it is sad and seems to sigh and weep. And they say it is the heart of Wistaria singing to the blind emperor, Liang.

Liang had been blind from his birth, and though he was emperor in name, yet his mother reigned at Peking, and he sat all day in the arbor at the old summer palace, wishing he could see the birds that fluttered in the wistaria boughs overhead.

Then one day he heard a new melody, and he ordered his slaves to bring him that bird and to put it in a cage near him.

So they hunted in all the trees in the garden, but they could not find the bird. And the next day the emperor heard it singing again, and he ordered them to catch it quickly before it flew away, but still they could not find it. Then the emperor said, "I myself will find it. I will call to it the next time it sings, and it will come to me because I am the emperor."

The next day when he heard the melody, he commanded everybody to leave him, and he rose and stood in the entrance of the arbor, and lifted his face to the sunlight.

"I want you, oh, bird," he called softly. "Your melody enchants my heart and makes me forget my blindness. I beg of you to come to me and sing sweetly."

Then he listened, and he heard the melody again, this time in the flowering shrubs at the side of the arbor, and he was satisfied. He listened to it for hours, until he fell asleep, and when he wakened the melody was gone. Everywhere it was still.

Yet every day afterward, at the same hour, he would hear the singing, and it comforted him and made him forget his blindness. And he told his people, "We must reward the bird. Hide to-day when it sings and catch it for me, and I will place a necklet of jewels around its throat."

And that day when the singing began, the slaves of the emperor hid with nets to catch the rare bird, and they caught only Wistaria, the little daughter of the gardener, as she hid in the flowering shrubs and sang to the emperor.

"Is this the bird?" said the emperor wearily. "Take her away. I am disappointed."

But Wistaria fell on her knees before him and cried, "Oh, my emperor, it is not my lips that sing to you, it is my heart, and now you have broken it with your unkindness. Even an emperor should know that you cannot catch a heart with a net."

But the emperor would not listen to her, and the next day they told him she had died of grief, and they brought him her broken heart, all carefully wrapped up in white silk, and it was like clearest crystal, broken in many pieces.

"I do not care to have it," said the emperor sadly. "I want to hear the melody again."

And just then the wind blew softly through the wistaria blossoms, and the crystal pieces stirred faintly and there came a faint strain of far-off, delicious melody from them.

"That is it," cried the emperor happily. "That is the bird singing again."

"Nay," they told him, "it is only the broken heart of Wistaria trembling in the wind."

"Then hang it there among the blossoms," ordered the emperor, "I cannot see it anyway, and when the wind stirs it and I hear the melody I shall think I am listening to the bird. The music brings cheer to my heart."

So they took the little crystal heart and strung the pieces on gold thread and hung it where the wind would play upon it, and the emperor was content.

"It is the love of little Wistaria that makes it sound so sweet," they told him, but he only shook his head at this.

"Nay, it is only the singing of the wind and the waving of the leaves about the broken heart," he said with a note of sadness in his voice, but the people knew differently, and to this very day you may buy the singing heart of Wistaria, little, tiny, broken bits of crystal dangling on silken cords, and when you hang it in the wind, you will hear the same music that the great emperor heard many centuries ago in the Arbor of the Singing Heart.

We Americans call these singing hearts, wind bells, because, whenever the wind touches the dangling, glistening crystals, it makes them tinkle, tinkle, oh! so softly, like the music of a silver bell.

"And they caught only Wistaria, the little daughter of the gardener"

Cousin Sally's Letter

DEAR GIRLS AND BOYS:—

Once again I want to speak to you about the contests. Dear little friends, please always bear in mind that whatever work you send me must be your own work. I have tried to make it clear that your verses, stories and drawings must be original, and original means "not copied," just your own work, your very own ideas. Do you understand, boys and girls? And won't you please think of this the next time you enter our contest? When you copy and win a prize for work that is not your own, you are doing a dishonorable deed and you are not acting fairly to the other contestants.

It would hurt me to feel that any of my cousins copied intentionally. I don't want to think that any one of our young readers would. In the future, no verse, story or drawing will be considered in the contests which does not bear the signature of your parent or guardian to certify that it is your own work.

Let's be fair and square in everything; let's win honestly; let's do the best we can, no matter how poor that "best" is. That's the only way to be happy, little friends, then your minds will not be troubled, and when you win a prize you can cay, "I won it *honestly*."

I was so pleased with your work in our January 25th issue telling me about your gardens. Such splendid letters! Dear me, I do believe every one of my boys and girls had a garden last year.

I had one, too, when I lived in the country, and I think most of my happiest moments were spent in that little garden by the old stone wall, weeding the bed and tending the flowers. Oh, the joy of watching the little seeds come up and seeing the little plants grow larger and larger each day and then burst into bloom. By all means have a garden this summer, too, no matter how small it may be. I feel quite certain that mother and father will be very willing to give you a small piece of ground if you tell them how very much you would love to have a garden all your own, where you can plant just what you wish and watch the green things growing.

I had such a hard time to pick the winners in this garden contest. The letters were all so good.

After I had the best ones selected it took me nearly a whole day to choose the winners. I wanted to make sure that my judgment was the right judgment. Some of the best letters will be printed next time. And we will have our monthly contest then. I am planning a new kind of contest, and there wasn't room for it this time. So I think we had better go back to our former arrangement and have it on the 10th instead of the 25th. We are going to have a splendid page next issue, so do not fail to see it.

Our club grows daily, and our members are doing their utmost to keep the rules. One little girl writes: "Mother says I am a nicer girl since I joined the club. I am not so cross, and I don't say unkind things like I used to. And I enjoy our page so much."

Don't you want to join, too, and enter into our good times? And don't you want to help make the world and the people about you a little happier? You can if you want to, and if you want to, then join Cousin Sally's Club. Our button of membership costs only five cents and I know you will be delighted with it.

With lots of love to you all,

Affectionately, COUSIN SALLY.

DEAREST COUSIN SALLY:—

I am a little girl eight years old, and love to read the little letters of our club-members. I live in Geneva, and I love to go to church and Sunday-school and Junior League. I am a member of the Methodist Church and League.

I want to tell you about my kitty. It is the first kitty I have ever had. It is black and white. It likes to play with a ball. It has large round gray eyes and a pink nose, and its name is Polly. My little brother likes to play with her. He tried to tie a knot in her tail. I do not like him to be rough with her. She scampers around after me upstairs and down, and she loves to lie on a soft cushion by the kitchen stove. It is the sweetest, dearest kitty that ever was.

ANNA SCHOOLEY,
Waldron, Indiana.

Winners in Jan. 25th Contest

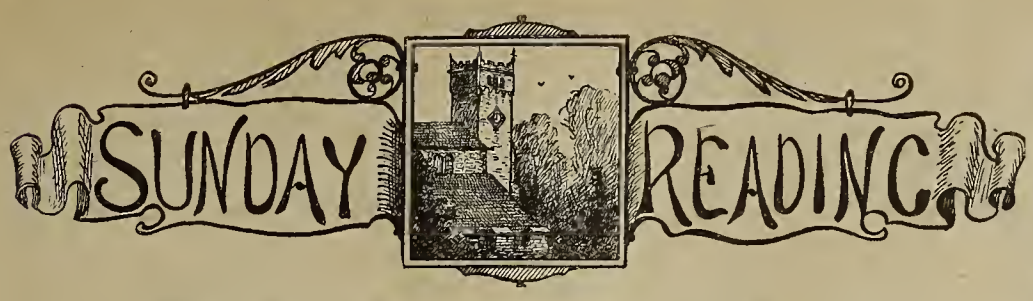
LORA FARRINGTON, age fourteen, Kalispel, Montana; Vinita Lee New, age sixteen, Stanwood, Washington; Jay Renick, age fourteen, Lewiston, Ohio; Hazel Shipman, age seventeen, Ramsey, Illinois; Willie Mensing, age twelve, Lowden, Iowa; Mayme Grassmee, age fifteen, Carpenter, Wyoming; Gertrude Wertz, age eleven, Bryan, Ohio; Bessie D. Truax, Hanlin Station, Pennsylvania; Ellen Norden, age thirteen, New Home, North Dakota; Ruby Liddle, age nine, Andes, New York; Norman Russell, age thirteen, Middleport, Ohio.

Honor Roll

THE following boys' and girls' work was unusually good and deserves honorable mention. They each received a charming picture as a supplementary prize:

Agnes White, age sixteen, Pasco, Florida; Earl Colliton, age eleven, Delanson, New York; Marie Weder, age twelve, Winchester, Illinois; Peter J. Kole, age twelve, Ringle, Wisconsin; Pauline J. Johnson, age twelve, Deer Isle, Maine; Russell O. Beers, age thirteen, Davenport, New York; Laura Kellar, age twelve, Clariton, Iowa; Olive Mangold, age sixteen, Carrolltown, Pennsylvania; Carl Fallon, age nine, Peru, New York; Inez Norton, age eleven, Ray, Indiana; May Y. Anderson, age fourteen, Thornton, Idaho; Mabel Christensen, age thirteen, Harrold, Soutb Dakota; Gertrude Thomas, age fourteen, Ellensburg, Washington; Maggie C. Christy, age thirteen, Deep Water, Missouri; Marjorie Fralick, age nine, De Beque, Colorado; Viola Roser, age twelve, Harrison, Ohio; Ethelyn Bowles, age eleven, Canisto, New York; Esther Kelley, age twelve Ottawa, Illinois; Marie Hohnesland, age thirteen, Fort Shaw, Montana.

THE following cousins are eager to correspond with some of our younger readers: Helen G. Weher, R. F. D. 2, Mechanicsburg, Pennsylvania; Estelle Throop, Deer Park, Washington; Hanna Dotson, Clyde, North Carolina; Margaret Braatz, R. R. 2, Chalmers, Indiana; Annie Bacon, Box 27, Baldwin's Mills, Quebec, Canada.



Right From the Heart

By Edgar L. Vincent

WHEN a squirrel wants to get the sweetest part of the kernel of corn, he strikes for the heart.

You have perhaps watched one of these bright-eyed little fellows on a spring morning, when he was taking his breakfast. Somewhere he has found part of an ear of corn. What a bonanza for him, after the long winter's housing up in the hole in the old maple yonder, with never a thing to eat but dried old hickory-nuts laid up last fall!

For a moment or two he sits on the wood-pile and chatters about his find. Now and then he turns a quizzical glance your way, as if to ask what you are going to do about it. "Going to hurt me, or will you give me the same chance to live and have a good time that you yourself want?" Then he dives straight for the heart of his kernel of corn. Right there is the sweetest, richest, most nourishing bit of all. The shell he tosses away and picks up another kernel—the dear little gormandizer he is!—and digs the heart out of that, too.

For the heart is sweetest of all.

Up through the meadow on a warm summer morning you make your way. You have been busy while the sun has been climbing toward midday. Now you must have a drink. Why not stoop down by the side of the brook? Here the water is pure and clear as crystal. It ripples a sweet song to you, as if to invite you to kneel on its banks and slake your thirst. But no. Up yonder is the spring—the heart of the brook. No water so cool as you will find up there. Down here the little stream has touched the earth and gathered up something of its impurity. Many a bit of wood, more than one tiny straw floats on the surface of the water down here; but up there it is cool and fresh and clean, just as God made it. There you kneel and drink till thirst is gone.

The heart of the spring is purest of all. Let's make our word mean a little more. The heart is always best of all.

And yet, why is it that many times you and I hide our hearts away from those who love us best of all? I know what you will say. "I do not like to wear my heart on my sleeve. It is all right to laugh and to smile and to be friendly with everybody, but my heart's my own!"

So while we keep our hearts wrapped about by this shell of hardest steel, men and women are going up and down the world, starving for what we might give and be the richer for the giving.

This morning you met one on life's way who really needed a kindly word. His home life is so bare! His soul so pinched for lack of a warm, tender, loving touch! Did you speak the word which would bring cheer? Did you give the touch that would have made the whole day sunshiny and beautiful? Did you? Or were you cold and distant, so that he went on a bit more lonely, a little more hungry than ever before?

It costs to give of oneself this way? Surely it does. When the heart of the kernel of corn was gone to make the breakfast of the squirrel, nothing was left that ever would be worth while afterward, for the life of the corn is in the heart. Giving that, it gives all. A little less water went trickling down the hillside to turn the wheels of the mill below after you had knelt at the spring that summer morning. But the world was a little better and a little happier after that. Giving to the very last is the grandest thing you and I ever will do.

But there is this difference when we give from the very heart. Out of our heart of hearts we have taken a seed and dropped it into warm, yielding, blessed ground. Now if we but drop a tear or two to soften it, by and by when we go that way we will find fruit, rosy-cheeked, beautiful, delicious. It does cost to give right from the heart; still, he who thus gives is richer than ever before.

Away off in the heart of some of the tropical lands grows a wonderful vine. Planting its roots deep down in the dark earth, it feels its way up through the shadows, clinging to the branches of the trees, pushing on toward the sunlight. Listen! What is it saying now? "Old Mother Earth, lift hard down there! I know it takes our strength; I can feel the very throbs of your heart as you tug with your arms under me! But you keep cheery and I'll do my best, and some day something worth while will come of it!"

And the fond mother does lift hard while the vine presses on heavenward and skyward.

There comes a day when the last shadow has been passed. Out into the clear, pure air of the sky the vine leaps; and away up there it sends out a bud that becomes a lovely blossom, the very crowning beauty of its life. The heart of the gray earth has lifted till the flower comes. Little to show for the work done till the topmost branches come at last into the sunshine, but there is radiant glory!

Right from the heart—that's the way to give. Give smiles; give words of hope and joy and comfort; give the very best there is in you and some day blossoms will hang their banners of beauty above the reach of earth's shadows, where God will see them and all the world be blessed.

A Bad Habit

By M. Carle

WHO will not admit that the hoarding habit is a very bad habit? Yet those that would admit it the quickest are perhaps hoarding something without being aware that they are doing so. Silver and gold are not the only things one can hoard.

I remember an old "aunty" of my youth. Being present at a lecture one evening, this old aunty was very much impressed with a certain remark of the speaker's. I suppose it was about the only thing she understood. After the lecture she sought out the speaker and asked him to write down the remark for her. Being acquainted with the old woman and knowing she could not read, the speaker regarded her with surprise.

"I want to pass it on," explained "aunty," and her request was granted.

The old woman took the slip of paper home and pinned it to her window-blind with the words facing the street. On being asked the reason for her action, she replied: "Dem words done me a heap o' good. Maybe dey help some other person."

She did not have much to give, but she was glad to pass on that which had given her a crumb of comfort.

How many who have been the recipients of a helpful thought, a kind word or a loving deed think to pass them on?

What you give the world is still your own. Like the old aunty you may keep the effects in your own soul, but hang in your window that which has brought you peace so that others, too, may be comforted.

Remember that which you give you will receive back doubled. Some people never think of passing on the good deeds, words or thoughts that have come their way, yet they scatter with a free hand all the unkind things that have taken root in their own hearts. And this brings to my mind another incident concerning the old "aunty." A neighbor came to her with a grievance:

"Mrs. D—— didn't speak to me to-day. I suppose, now she's got her new house, she thinks she's better'n poor folks. Well, I ain't got no new house, but what I have got is paid for. If all I hear is true, she would not have a new house or anything else if her bills was paid!"

How many who have been the recipients mo'ning I opened my south winder where de flies was a-hangin' about. Thinks I, dese flies will go out in the sunshine. But bress your heart, all dem flies what was inside stayed inside an' de outside ones comed inside, too! Packs an' packs o' dem till de hull winder an' walls, too, was jes' black with flies. I thought how flies was jes' like bad thoughts, dey come a-crowdin' in at de first chance. We got to chase dem out like I had to chase dem flies an' put in de screens to keep dem out. Better put in your screens, honey, den you won't hear things what don't concern you, an' Mrs. D——'s snubbin' won't hurt you."

Wise old "aunty!" Let us all take her advice and put in our screens to shut out the bad thoughts, but don't let us forget to pass the good thoughts on so that we won't get into the hoarding habit.

Special Offer

ROSE-BUSHES With Your Subscription

Will Bloom This Season of 1911

For 30 Days

You can get this great collection of **five** choice rose-bushes without cost with your subscription until April 25th. We have just obtained from one of the biggest nurseries in the country, a small stock of their most popular and beautiful collections. By our arrangement this offer must be withdrawn in just one month—on April 25th—and it will not be repeated. Read this offer.

The Five Best Roses

This elegant collection includes the choicest varieties of famous roses, as follows:

The beautiful white **Killarney Rose;** The popular pink rose, **William R. Smith;** the famous yellow rose, **Etoile de Lyon;** the gorgeous crimson rose, **Helen Gould,** and the marvelous pink **Maman Cochet.**

We guarantee these rose-bushes to be exactly as described, to arrive in perfect condition and to give entire satisfaction, or new bushes will be substituted without cost. They will bloom this season of 1911. The collection of rose-bushes will be shipped prepaid to your door.

Until April 25th

And Not One Day Later

Two Giant Offers to Readers

OFFER No. 1

FARM AND FIRESIDE, one full year, twice every month, including twenty-four big numbers and the special Easter Number, together with **Collection of five Rose-Bushes.**

All For **50c**

OFFER No. 2

FARM AND FIRESIDE, three years, twice every month, including seventy-two big numbers and the special Easter Number, together with **Collection of five Rose-Bushes.**

All For **$1.00**

Send Your Subscription at Once

Order Rose Collection as No. 105

FARM AND FIRESIDE, Springfield, Ohio

Until April 15th

Before Prices are Advanced

FARM AND FIRESIDE subscribers have a last opportunity to take advantage of our big Easter Offers. You still have a few days during which you can obtain these most generous offers of the season. In fact, the most generous offers ever made by FARM AND FIRESIDE to its readers. This subscription bargain is unparalleled. You can get more than three times your money's worth. But the time is short. These offers will positively be withdrawn April 15th never to be repeated. Accept now.

These FARM AND FIRESIDE offers are for every reader of FARM AND FIRESIDE. We want you to have a set of these beautiful Easter Post-Cards. FARM AND FIRESIDE will continue to be published twice as often as other papers. If your remittance for FARM AND FIRESIDE is overdue, kindly send it now—you will be handsomely rewarded for so doing. If your subscription still has some time to run, remit now for its extension at the special prices here offered. It will save you money.

A Wonderful Assortment

There is an unusual variety of Post-Cards in this collection. Each card in the set we have for you is different. Every Post-Card is a complete and perfect picture in itself. Friends that you remember with one of these handsome Post-Cards will be delighted and keenly appreciative of your thoughtfulness. Such remarkably beautiful Post-Cards are bound to excite the admiration of every one of your friends who sees them, but it will be impossible for anyone to obtain Post-Cards like them because these Easter Post-Cards have been manufactured especially for FARM AND FIRESIDE readers.

We know that you will be anxious to receive your beautiful Easter Post-Cards just as soon as possible, so we have the cards right here in our big office all packed and ready to send as soon as your order reaches FARM AND FIRESIDE.

Gorgeous Colors

Every card is printed in fourteen colors and gold and is gorgeously embossed and tastefully decorated. The rich coloring, the delicate touches and dainty effects brought out in these beautiful Post-Cards is the work of one of our greatest artists. You could not imagine more elegant pictures and appropriate sentiments for the season. There are pictures of rosy-cheeked children, Easter Rabbits, Easter Eggs, Cupids, beautiful flowers, and landscapes; in fact all the beautiful and unusual things that are particularly associated with Easter-time. The Easter Post-Card season is now on us and you will want these elegant Post-Cards to send to your friends and relatives and to keep your own Post-Card collection up-to-date. This gives you an opportunity to surprise and delight your friends with one of these Post-Cards at Easter.

Elegant Easter Post-Cards for All

It is safe to say that so fine a collection of Easter cards has never before been brought together. Every card has a handsome and appropriate Easter design, and is embossed and printed in fourteen colors and gold. We can't begin to picture the beauty of this collection of Easter cards. There is as much difference in the quality and costliness of post-cards as there is in the quality of butter.

This year Easter comes on April 16th, so right now is the time you should have Easter Post-Cards to send your friends and for your album collection. If you admire beautiful Easter Post-Cards our collection is bound to delight you. You must order soon, however, because after April 15th our offers will be withdrawn never to be made again at such low prices.

For Subscribers Only

The forthcoming numbers of FARM AND FIRESIDE will contain the biggest features we have ever offered. These special big numbers will be only sent to paid-in-advance subscribers to FARM AND FIRESIDE.

Next month will begin in FARM AND FIRESIDE the first section of a thrilling, absorbing Detective Story by Anna Katharine Green, the most famous writer of detective stories in the world.

Beginning next month, also, Margaret Sangster, the most famous and popular woman writer in America, will write regularly for FARM AND FIRESIDE.

THE LAST CALL

Until April 15th Only

Farm and Fireside

24 numbers a year—two times a month—twice as often as other farm papers—more valuable reading matter than any other paper in the world at the price.

100 Agricultural Features

Including the "Farmers' Lobby," "Marketing Farm Products," "The Headwork Shop," "How to Make Money From Poultry on the Farm," and many other important subjects.

25 Thrilling Stories

Including two or three complete novels, each of which would cost 50 cents or more if purchased at a store, romances, tales of adventure, and love stories.

Fashions for Women

The latest fashions described by the most popular fashion authority in America, with full details of how to make your own clothes in the latest fashions.

Easter Post-Cards

Set of beautiful Easter Post-Cards printed in fourteen colors and gold, handsomely embossed, with every subscription. Post-Cards and subscription may be sent to different addresses.

OFFER No. 1

Special Introductory Offer—Farm and Fireside—16 big papers—eight months' subscription and 8 Easter Post-Cards for

25c

OFFER No. 2

Farm and Fireside one full year—24 numbers—and 25 Easter Post-Cards

50c

OFFER No. 3

Farm and Fireside three full years—72 numbers—and 50 Easter Post-Cards

$1.00

The Most Progressive Farm Paper

FARM AND FIRESIDE's readers are unanimous in their declaration that FARM AND FIRESIDE is the most progressive farm paper published. Not only does it surpass other farm papers in appearance, being as handsomely printed as any high-priced magazine, but it has taken the lead in championing better methods in agriculture, better deals for the farmer by Congress.

FARM AND FIRESIDE is just now getting ready for the most important study of tools and agricultural implements ever undertaken by any farm paper. It will pay you to follow these articles. Prof. H. C. Taylor, America's highest authority on the rise and fall of prices, will write exceedingly valuable articles on "When to Sell Hogs," "When to Sell Corn" and other similar subjects.

Farmers' Lobby

One of the biggest and most distinctive features of FARM AND FIRESIDE will be the Farmers' Lobby at Washington, under the able management of Judson C. Welliver, who has been retained as a special and exclusive representative for FARM AND FIRESIDE readers. Mr. Welliver will call the roll on good and bad measures and the men who vote on them. Your congressmen and senators will be in on our roll-call.

Easter Number

The big Easter number will appear next month, a handsome paper, full of big features, including a wonderful Easter Picture, which every reader will want to cut out and hang on the wall. The picture is entitled "The Song of the Ages." This big special number will be sent to *paid-in-advance subscribers only.*

Use Order-Blank Opposite AT ONCE

EXTRA SPECIAL OFFER

Get two Farm and Fireside subscriptions, each at 25c; send us the 50c. Each subscriber will receive Farm and Fireside for eight months together with a collection of 8 Easter Post-Cards. You will receive 25 Easter Post-Cards without cost. Or, get two Farm and Fireside subscriptions each at 50c; send us the $1.00. Each subscriber will receive Farm and Fireside for one full year, together with a collection of 25 Easter Post-Cards. You will receive 50 Easter Post-Cards without cost.

One of the subscriptions may be your own.

RUSH THIS ORDER-BLANK

Farm and Fireside, Springfield, Ohio.

Inclosed please find $.....for which I accept your special twenty-day offer No..... including the set of beautiful Easter Post-Cards.

NAME.....

ADDRESS.....

TOWN..... STATE.....

Date.....

If you send another subscription with your own, write the name and address below, or on a separate piece of paper.

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Poor Relations

[CONTINUED FROM PAGE 24]

"Always you have looked down on us as 'poor relations,' as 'necessary evils' to be disposed of as cursorily as possible. Now you come to me for aid and for help!

"My fault that your son forged! No! It is yours, Uncle Charlie. You don't know justice when it's meted out to you. You are right about family. Blood ought to count! Relatives ought to stick together, but have you ever practised what you now preach?" Marion's manner was lofty.

"Yesterday you were afraid to have Fred even call on me, to-day I must decline the very doubtful honor of becoming his wife! Now, that nobody else would have him, you give him to me to repair the damages! I am sorry for the boy." Her voice trembled. "But I don't love him, I never could respect him and I won't marry him!"

As the last sentence left her lips, she suddenly became aware that Fred himself was standing in the doorway.

"I heard everything you said, Marion," he muttered, "and I don't blame you! I'm not a very brilliant specimen of humanity. Am I?" He glanced sullenly at his father, but Charles Martin did not respond, while into his eyes came a look of dumb suffering.

Marion had been thinking hard. She felt unaccountably disturbed at the sight of her uncle's apathetic face.

"Uncle Charlie," she asked, "will you leave me alone with Fred for a few minutes?" She lifted her eyes to him pityingly, and the blue of them was very soft and deep.

The man rose slowly and, moved by a vague impulse, put his hand on her arm. "Try to help him, Marion," he begged, then after a long pause, "I can't." Heavily he moved toward the door, turned a long inscrutable look upon the two and went out.

"Marion," the boy exclaimed, "you are going to give me a chance to explain, aren't you? You know I did it for you, dear. I have loved you ever since the first time we met. You are adorable with your saucy face and golden hair."

The girl raised her hand in protest. "Fred," she began, disregarding his words, "I suppose you understand that I won't use the money you sent to the publishers."

"Not use it!" he cried almost angrily. "It will be a sin to waste it after all this trouble." He laughed a little, seemingly with no idea of the gravity of his fault.

Marion closed her eyes for a moment. A great softening compassion pervaded her. She had suffered so much herself during the last weeks that she was in sympathy with all pain. Evidently happiness was not her portion. Would it be better to spend her life helping another than to let it pass in useless repining? She tried to think connectedly, but the boy broke in:

"Listen," he begged, catching up one of her hands and holding it tight. "All I need is someone to love me—to care about me—you understand. Nobody ever has—for my own sake. There never seemed to be anybody who cared to hear about my troubles.

"When I saw how dad treated you and your sister I got furious. Honest, dear, it was the best in me, not the worst which made me try to help you. I took the wrong road, but, Marion darling, if I knew you were watching, I would go straight. You're fine and sweet, and an inspiration. When you are around I feel as if I could knock down a brick wall with one hand. I'm not a bad sort, Marion, not yet, but I will be soon, if nobody cares."

He looked very boyish, very tender, very earnest, as he spoke, and all that was motherly in the girl answered his appeal. So when he stopped, she replied very gently:

"I don't love you, Fred, how could I help you under such circumstances?"

"Wait until I've earned your respect, then you will love me fast enough. Marry me anyway, Marion. Give me an anchor now. You'll never regret it, dear, I promise you." He captured her other hand, too.

She looked at him in bewilderment. Everything seemed so different that day. Fred begging her to marry him. Fred's father making the same plea with unheard-of humility! She stared at the boy dazed; not even drawing her hands away until creakingly a door opened, and Charles Martin reëntered the office. Marion lifted her eyes to his face questioningly and all her sensitive nature tingled with a great pity for this lion-like man at bay. He was so big, physically and mentally. Helplessness sat so ill on him. No caged animal ever looked so futile.

"Uncle Charlie," she ventured at last, "let us not have a painful scene. You—you look very tired. Here, do sit down." Withdrawing herself from the boy she pushed a heavy chair toward him.

"What are you going to do about Fred?" he queried insistently, not moving. "But I know, you're going to take him and make a man of him, of course." An eager desire for confirmation ran through every word.

The girl shook her head sadly.

"Marion," Fred protested, but her red lips only closed more firmly. "I'll go out and shoot myself," he cried wildly. "Nobody cares if I'm alive or not anyway. I thought you would, but you won't!" He started blindly for the door.

"Fred," Marion commanded, "if you meant a word of what you said, let me see you begin to earn my respect now. Be a man!"

"What for? For your sake I would." He broke off passionately.

"He means that, Marion, I honestly believe he would do right for your sake," his father declared, the words coming with difficulty. "I'm not used to begging for what I want," he floundered, "but I'm pleading—now. I want you to take him. I ask you to, I, who deserve only hatred at your hands. I—love—the boy. You are his only salvation. You are strong and, yes—fine, besides he loves you. Be engaged to him, I don't know how to say it, but I guess it would be the right thing for you to do under the circumstances, on account of—the family. 'The Family,'" he laughed shakily. "I've said those words oftener in the past few hours than in all the rest of my life put together!" His voice choked with the intensity of his feelings as he exploded: "Great heavens, I can't explain, but I'm begging you to have him. I'm begging you to love him, Marion!"

He stopped and looked at the girl, then at his son, still standing in the doorway.

"Come back, sir," he commanded, "you would move heaven and earth to make her happy, wouldn't you? Tell her so now."

Fred stepped forward and half held out his arms toward the girl. "I love you," he muttered humbly. "I'll prove it to you if you will let me."

Marion rose unsteadily. Was she dreaming? Could it possibly be right for her to do this thing? She looked at her uncle in amazement. There was a subtle flattery in his pleading. The enormous magnetism of his personality influenced her. The force of the man was felt even in his misery.

He nodded at the girl and said slowly, "By every means in my power I'll repay you."

"But I—" she began, when suddenly the boy sprang forward and caught her in his arms.

"Darling," he pleaded, "say 'yes!' Say it—quickly now!"

"Yes now," echoed the heavier tones of his father.

Marion quivered, as she freed herself. It was all so strange, so inexplicable. Perhaps they were right. Perhaps this was her duty.

"Oh, Fred," she sobbed, "I don't know right from wrong, but if you think it best, I'll try to help you—I—I'll marry you!"

"Sweetheart," he cried exultingly, but she drew away, only to feel Charles Martin's hands closing strongly over hers.

"God bless you—girl—" he murmured brokenly.

Just then the door from the outer offices opened and John Hastings stepped into the room.

"Good-morning, Mr. Martin," he called. "The clerks told me to come right through." Then he stopped as, looking up from the lighting of a cigar, he beheld the scene before him. His eyes traveled from Fred to his father, then to Marion amazed and vaguely troubled. "Good-morning! Good-morning!" he repeated.

"Come with me, Hastings," the older man requested bruskly, as his, as he thought, prospective son-in-law bowed to the other two. "We can talk in my sanctum." With one more look at Marion, he walked away, and Jack Hastings perforce followed him.

The girl flushed poppy-red and her hands turned cold.

Fred began his love-making with fresh ardor, but she sat unheeding, gazing fascinated at the mahogany door. No doubt the two men were arranging about Penelope's marriage. Her lips quivered. She was going to be married, too. She gasped and trembled, but kept on staring at the door.

Suddenly Charles Martin's voice rose loud and distinct, "What!" he cried. "You and Penelope have broken your engagement! Why?" Then his voice sank again and became an indistinguishable mumble.

The girl's brain seemed stunned. The engagement off! John Hastings free! Now that she had promised to marry someone else. A hysterical sense of the ludicrousness of the situation touched her, then abruptly wrenching her hands from the astonished Fred, she buried her face on the arm of the leather chair and sobbed out her heartache.

Chapter XXIII.

All the afternoon and night following her engagement Marion went about in a numbing daze. She had gone right home from Mr. Martin's office. Of course, her request to see Mr. Hastings at five o'clock was disregarded entirely.

Penelope had gone to New Rochelle to spend Sunday with Mrs. Bellamy and her fiancé. Marion was to have joined them, but she sent a brief note of excuse, pleading a cold and begging her sister to stay. So when Sunday morning came she was still alone and enveloped in a depression which made even the friendliest noise sound like the bell of doom.

Over and over she had argued with herself that she could not marry Fred, and as many times an inner voice had questioned, "Are you willing to take the responsibility of his ruin? Right or wrong, his fate rests with you."

"No, no," she would protest miserably. "I can't reform him if he can't help himself." But swift the reply always came, "That is true of a bad man, but not of a weak one!" Back and forth, time and again she reasoned out the whole affair, but the morning light brought with it no revelation.

Breakfast over, the girl sat by the window in their little parlor, and stared across at the gray brick wall. Who had said that right was easily discerned? To her it seemed to have as many betraying angles as a hopeless mirror-maze. Her thoughts whirled through a thousand conjectures, but always in the background of them was a stationary image of John Hastings. She loved him, and since yesterday deep down in her consciousness not acknowledged, but unreproved, was the lurking hope that he loved her. Surely they had a right to happiness. But could happiness be won by sending Fred adrift? She sobbed a little, hopelessly, her emotions drifting each moment nearer and nearer anger.

Why had she been brought in this affair? Why should she pay the penalty for another's wrong-doing? Wearily she leaned her forehead against the cool window-pane. At half-past twelve Fred was coming to take her to her uncle's. They were going to discuss the situation at a family dinner. What a horror her first function of that sort had been.

She wished she had sent for Penelope. How soothing the sound of her soft low voice would be. But then it would have been cruel to disturb her first happiness.

And what about John Hastings' happiness? "If your suspicions are true, are you considering him?" queried the inward voice again. So it went, the hours passing unnoticed until a rapid knock at the door told her that half-past twelve and Fred had arrived.

Heavy-eyed and pale, her smile of greeting was far more like a twitch of pain.

Tenderly the boy questioned her, eager, devoted and beaming with happiness. The emotion of the present always filled Fred to overflowing. His nature was not large enough to harbor deep reserves of feeling. So for him yesterday was just an unpleasant memory, only the happy to-day was worthy of consideration.

Stoically Marion submitted to his embrace. She almost ceased to feel herself a free agent. It seemed as if she were a mere bit of flotsam, pulled about by strength other than her own.

Suddenly the sharp peal of the telephone startled them. The girl took up the receiver mechanically. "Mr. Hastings calling," she gasped. A swift unreasoning joy sent a momentary sparkle to her face, then swifter still she seemed in bondage to an inexplicable fear. She could not see John Hastings, much as she longed to. She could not keep her self-control before him—not now. All these thoughts flashed through her brain during the first breath of astonishment.

"Tell Mr. Hastings Miss Martin has a severe headache and begs to be excused," she finally directed, then hung up the receiver without waiting for an answer.

Fred moved uneasily. "I heard about Hastings and Pen," he began, "but why is Jack calling on you?" He glanced at the girl perplexedly and added, "You look awfully queer, Marion."

"Oh, no," the girl protested, the break in her voice making the denial worse than useless. Why had she spoken Mr. Hastings' name aloud?

Abruptly Fred stepped close to her, several impressions piecing themselves together in his mind. "Marion," he almost whispered, with a sickening conviction, "you—are—not—in love—with him?"

She started amazedly and demanded, "What do you mean by asking me such a question?" The words were faint with alarm and nervousness, while wave after wave of color surged across her face.

A sudden dogged expression, faintly suggestive of his father, strengthened the boy's mouth and chin. "I wish you could see yourself," he muttered brokenly. "Your face is a signed, sealed and delivered confession!"

"You ridiculous boy!" Marion tried to laugh naturally. "I believe you are jealous!"

"Yes, I am!" he cried hotly. "You don't love me! How do I know—"

"How will you ever know?" she returned swiftly. As there was no answer, she walked to the bedroom doorway and said in a different tone, "I must put my hat and coat on," then went in and closed the door.

The boy wandered to the center-table, the dogged look on his face hardening into recklessness. For several minutes he stood tapping his fingers against the wood of a chair, much as he had stood that day in his office with the pink check in his hand.

Suddenly a big strangled sob sounded from the other room.

Swiftly Fred took from his pocket an odorous leather memorandum, and scribbling a few lines on a page of it, laid it on the table. Then jerkily snatching up his hat and cane, he tiptoed toward the door. Tears were in his eyes and his lips were tremulous. Softly he turned the knob and stepped into the hallway. Once more he looked toward the little apartment, a passionate tenderness in his eyes. Then he hurried away.

Five minutes later Marion, reëntering the parlor, ready for the street, looked uncomprehendingly at the empty room. Hurriedly she opened the hall door and glanced to right and left. The corridor was empty.

"Why," she puzzled, then turning toward the window her eyes caught sight of the slip of paper, conspicuously white against the red table-cover.

Snatching it, a premonition of its contents seized her, and she read, sorrowing but unastonished, the few lines scrawled across the page:

> MARION DARLING:—Marry Hastings if you want to. I'm going away. Some day when I've made a man of myself I'll come back. Don't hunt for me. I'll write the governor! FRED.

Twice she re-read the brief message, as if trying to realize its meaning. Fred gone—why, he had been talking to her so short a time ago, standing right in that room, so vivid and real, in flesh and blood. And now he was gone.

A nervous tremor ran through her, and with it came a sudden unexpected sense of loneliness. How still the room was. She sat down on one of the hard chairs, drawing off her gloves mechanically. What would Uncle Charlie think? He would blame her—of course. Perhaps rightly. And what would John Hastings say? If she only had not sent him away!

Her head felt so heavy, her eyes so hot. If there were only someone to talk to, instead of the deadly silence. She did not cry, but tried to force herself to think. Should she telephone her uncle? What was best to do? Every way was almost unbearably hard for her. Rising hesitantly, she caught sight of herself in a mirror above the mantel-shelf. Her face was white and pale-lipped, with dark circles throwing tragic shadows beneath her eyes. For perhaps a minute she gazed mutely at the image; then she broke down and standing quite still allowed the deep-rooted sobs to rack her frame.

"I'm young," she cried aloud to the girl in the glass. "I should not look like that. What have I done that I should be made so miserable? Oh, I'm afraid!" Her voice died down again and she resumed her fascinated staring. A creature of moods, the last week had demanded of her iron stability and courage. Bravely she had made the effort to be firm and just, but the constant crying of her heart made the words of justice very indistinct.

After about ten minutes another peal of the bell disturbed her. She almost flew to the door. She would welcome any human being. The maid, a bell-boy—anybody. The desire to hear a friendly voice, to speak to someone, possessed her. Her disheveled hair and tear-marked face were forgotten. Eagerly she turned the knob, and there on the threshold, big, erect, expectant, stood John Hastings.

"You!" Marion exulted, a dancing thrill in her voice, forgetting to wonder how he came up unannounced; then with a quaint resumption of formality, she added, "Won't you come in and sit down?"

Gravely he removed his overcoat, watching the relief and peace steal into the girl's eyes. They looked at each other, a whole love tale in their glances; then in a flash, his arms were about her, crushing her close, as he whispered, "Darling, darling! You are going to marry me!"

After that the little hotel room facing the gray brick wall; the despised little room, with its shabby furniture and air of deprivation, became a glorified place where two people enjoyed their moment of supreme happiness.

Then tender confidences began, lasting until Marion suddenly questioned, "Why did you come back, Jack?"

"I met Fred," he answered, "and he told me to come."

"Fred," the girl cried. "Oh, I forgot! He wrote me he was going away for good." Hurriedly, she told him the whole story, ending, "Oughtn't we to let Uncle Charlie know?" She was crying softly.

"Yes," Hastings decided. "I'll telephone. That's the least we can do anyway." He crossed to the 'phone and asked for the required number.

"Break it to Uncle Charlie gently," the girl cautioned, "or—or rather—let me speak. I've been very selfish to forget—until—just now."

The man handed her the receiver, just as the connection was given.

"Hello," she began, "I want to speak to Mr. Martin. Tell him it is Miss Marion Martin."

Jack pressed her free hand in sympathy, until a heavy voice sounded.

"Uncle Charlie," she hesitated, "I—I just want to tell you that you had better not expect Fred home—"

"Don't worry," he broke in grimly, "he's here now!"

"There now!" Marion cried.

"Yes," the heavy tones were husky, "I caught him just as he was packing his suitcase. We understand each other a little better than we did, I think—and he has decided to stay—and make a man of himself—here!" The ring in his voice tingled through the telephone.

"You—you don't blame me?" the girl went on.

"Don't worry," he said again. "I'm beginning to know justice when I see it, and I think—this affair may prove a good thing for—the whole family."

"Oh, Uncle Charlie!" Marion exclaimed; but there was only a choked "Good-by" in answer. Then he hung up the receiver.

"Do you suppose it's wrong to be so happy," she cried, her face alight with relief and tenderness, as Jack once more drew her to him. "I feel that I can never be good enough—or kind enough—or gentle enough—to deserve this—great, great joy!"

"I'm quite satisfied with you, just as you are," Hastings smiled, "and I have been ever since that first day, when you entered my office, so demure and shy. Think—if you had married Fred!"

"Or you Penelope!" she broke in archly.

"Penelope is going to marry the Comte de Feronac," he replied so contentedly that it moved them both to laughter.

"My own Pen is engaged and I'm engaged," Marion caroled, "and, oh, Jack dearest, don't think me mercenary; but I'm so thankful—that we won't be 'poor relations' any more!"

Once again they gazed at each other in full understanding, on their faces a light it would be sacrilege to describe.

[THE END]

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